This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

345
Pam

HARVARD UNIVERSITY

VE RI
TAS

LIBRARY OF THE SCHOOLS OF
LANDSCAPE ARCHITECTURE
AND
CITY PLANNING
Gift of B.S. Pray from collection of
James Sturgis Pray.

Long. 75° 30' West
N OF CANADA

STATE OF NEW YORK.

REPORT ON THE PROGRESS

OF THE

ADIRONDACK STATE LAND SURVEY

TO THE YEAR

1886.

WITH AN

HISTORICAL SKETCH OF THE WORK

AND

TABLE OF ELEVATIONS.

PLATES AND MAPS.

BY

VERPLANCK COLVIN,

SUPERINTENDENT OF SURVEYS.

ALBANY:
WEED, PARSONS AND COMPANY, PRINTERS,
1886.

May 1, 1930.

HARVARD UNIVERSITY
The Library of the Schools
of Landscape Architecture and City Planning

Gift of B. S. Pray from collection of
J. S. Pray
5784

Entered according to act of Congress in the year one thousand eight hundred and eighty-six,

In the office of the Librarian of Congress

[*All rights reserved*]

D
25
NY
1886

|| Ser.
|| Summ [illegible]
|| [illegible]
|| [illegible]

STATE OF NEW YORK.

No. 80.

IN ASSEMBLY,

MARCH 5, 1886.

REPORT

OF THE SUPERINTENDENT OF STATE LAND SURVEY.

STATE OF NEW YORK:
OFFICE OF STATE LAND SURVEY,
ALBANY, *March* 4, 1886.

To the Honorable JAMES W. HUSTED, *Speaker of the Assembly:*

SIR — In accordance with law, I have the honor to submit the accompanying report to the Legislature, relative to the surveys of the public lands in the counties of Clinton, Essex, Franklin, Fulton, Hamilton, Herkimer, Lewis, Saratoga, St. Lawrence and Warren.

Very respectfully yours,
VERPLANCK COLVIN,
Superintendent.

REPORT

ON THE PROGRESS OF THE SURVEY OF THE STATE LANDS.

To the Honorable the Legislature of the State of New York:

The surveys now being carried on by this department are conducted in conformity with the provisions of chapter 499 of the Laws of 1883. This law directs the Superintendent of the Adirondack Survey to make surveys, showing the location and area of all the several detached portions or parcels of State land in the counties of Clinton, Essex, Franklin, Fulton, Hamilton, Herkimer, Lewis, Saratoga, St. Lawrence and Warren, and to connect the same with the surveys of the interior, and to show upon a map or maps the position of such lands.

The law further directs (section 2, chapter 499, Laws of 1883) that the methods of survey shall be in accordance with those in use on the Adirondack Survey, and that copies of the maps relating to the State lands shall, upon their completion, be filed in the offices of the Comptroller and State Engineer and Surveyor.

The appropriation made in 1883 for both the field and office work was $15,000, and proved to be inadequate for the accomplishment of all the work desired, in consequence of the great extent of country to be covered, and the remarkable complications and difficulties that were found to exist in regard to the boundary lines of the lands to which the State held title.

DIFFICULTIES ENCOUNTERED.

The State lands in the ten counties mentioned in the law of 1883 were found to amount to nearly 750,000 acres. These lands were, to a great extent, bought in by the State authorities at tax sales, and have become portions of the public domain on account of the failure of the owners to redeem them by the payment of the arrears of taxes.

The State ownership has now, after repeated notifications, extending over years, been confirmed by law.

The legal title to the lands being thus securely vested in the State, the determination of the actual location of each of the separate tracts, pieces or parcels of land in the counties mentioned is, by the law, ordered to be made by means of proper surveys to be conducted by this department.

The marking out and location by survey of four thousand separate parcels of land, scattered over ten of the largest counties of the State, and embracing three-quarters of a million of acres, is an undertaking of the greatest magnitude.

When it is considered that in recent times these lands have more than quadrupled in value; that they contain nearly all the forest territory remaining in the possession of the State, and are believed to include deposits of valuable ore, inasmuch as lands in the same vicinity, once the property of the State, are now the location of prosperous mines, valued at millions of dollars; the importance of the trust imposed, the care required, and the difficulties encountered in the execution of these surveys will be to some extent understood.

Those difficulties which arise in the actual field-work of the survey, great as they are, are preceded by the even greater difficulties attendant upon the determination of what surveys are needed, and what data exist on which to base the measurements.

Generally, the first data to be consulted in identifying the property are the scant and frequently defective memoranda contained in the recorded deeds conveying the title of the property to the purchasers, who permitted it to pass to the State by their default in taxes. These peculiar land titles are very frequently complicated by repeated tax sales. At different times purchases have been made by various parties unfamiliar with the lands, who subsequently finding the uncertainty of the ownership, or the unavailability of the lands for agricultural use, or impediments preventing lumbering, and the like difficulties, have allowed the lands to be again sold by the State; the same process recurring until, by unrecorded and unmapped subdivisions, and repeated conveyances and sales, it becomes, in many instances, extremely difficult to ascertain what is the true description of the property.

When there are no public records of the original land surveys, and the records of the private surveys have been lost, or are not obtainable, if any complications or disputes arise as to the true boundaries of the particular lot owned by the State, the work of the survey has, of necessity, to be based upon a careful, critical search of the land titles and descriptions of boundaries of adjacent property.

Where legal controversies have arisen, or are pending in the courts, relative to such boundaries, the decisions have to be searched for, or, in some cases, awaited. The labor involved in these searches and the occasional delays, where the location of the boundary depends upon the decision of the courts, are entirely preliminary to the actual survey work, or the location, monumenting and marking of any boundary lines.

A careful study has also to be made of all available records for descriptions of old reference points from which to begin the resurveys. While there are numerous references to "a stake" or a "heap of stones," it has been found by experience in the field that the stakes have in most places entirely decayed and disappeared and the "heaps" of stones are generally quite indistinguishable from other stones, scattered throughout the woods. A study of the field-notes of the ancient surveys has, therefore, to be made to ascertain whether any record is given of the distance of a township corner from some stream or lake shore; the intersection of some line with an unmistakable precipice or gorge; of records of offsets to equally prominent natural features of the country. When a sufficient number of recognizable topographical features have thus been found in the old records, the field search for these starting points can be commenced; but the searches among the old records for such memoranda are frequently of necessity extensive on account of the difficulty of ascertaining among what records such data may be found. This portion of the data has usually to be searched for among the old colonial records. Where the boundaries of tracts are described in the original surveys of each, a comparison of the records is made to see whether the distance from the starting point or corner along the line to the topographical feature — stream, lake, or cliff — is similarly described; for, in the field searches, it is likely that the stream, lake, or cliff will be the first locality identified; so that by reversing the measurements the corner may, in turn, be re-found.

If the description of the same boundary line in the different field-notes of the adjacent townships do not agree, a renewed study of the subject must be made, and if an absolutely irreconcilable difference be found, then the authority of the records has to be considered, their accuracy and the legal questions involved studied in order to ascertain which of the ancient surveys will be maintained by the existing laws of the State.

In such cases much often depends upon the priority of the patents or the surveys, or the possession. This information is partially obtainable from the old records, and may in part be derived from oral testimony, the evidence of experts and others.

After the conclusion of these preliminary investigations the field-work is begun by an examination of the localities where survey work is most needed at the time, to settle questions of ownership of property. The records of the topographical features are so scanty that the restoration of the lines has to proceed like a reconstruction, so that when one line, corner, or position has been finally identified by the evidence collected, then the next grant, or patent, or subdivision, may be located in its turn by being built up, in accordance with the ancient field-notes, upon the basis of the lines of the first grant or patent identified. This is not all the means of identification. When the field-work has actually begun, the reconstruction by the new surveys will ordinarily, if the preliminary investigations have been carefully made, be found to so closely follow the ancient survey that the first random line run out will usually reveal a line of old marked trees, one of which being cut into, and the rings of annual growth counted, will identify the line by the age of the mark. These marks being consecutive along a given magnetic bearing, and all of the marks being of the same age, is—without dwelling further upon the field-work or entering into details — evidence of the identification of the ancient boundary. The actual re-survey is then begun, the sides of the lot or township are measured with steel ribbon, aligned by transit, the steel ribbon being kept taut by strong spring-balance handles held by the "chainmen;" the measurements being made perfectly horizontal by means of levels attached to the steel ribbon.

This re-measurement of the lines is very precise but is further checked and tested by the triangulation. It is for this purpose, for the checking and combining of the separate sections of detail surveys into one system, that the signal stations have been erected upon the mountain summits throughout the region, and it is by means of the trigonometrical measurements with the large theodolites that the different linear surveys are tested and connected with the surveys of the interior, in conformity with the law.

The field work of triangulation is even more difficult of execution than that of the linear surveys owing to the inaccessibility of the stations and the alternate cloudiness and smokiness of the atmosphere preventing sights to other signals. Delays of two weeks in obtaining a single sight from signal to signal are frequently caused by storms and clouds, and from a month to six weeks' stay is usually required at each signal station on a mountain peak to secure the needed observations. Yet the precise results of trigonometrical measurement are absolutely essential to the proving, connecting, testing and adjustment of all land survey and topographical work. Without the triangulation it would be impossible to tie the different surveys together so as to plat them in the construction of the maps.

It is only by the processes thus indicated that a settlement of the disputed boundaries can be arrived at, the monumenting of corners and land lines accurately effected, and the data obtained for the preparation of exact maps of the region.

All these divisions of the work are essential to the construction of the maps proposed, and are in conformity with the general requirement of the law, which directs that the methods of survey shall be in accordance with those previously in use upon the Adirondack Survey. What these methods have been are sufficiently explained by the publications and records of the survey.

These explanations of the requirements of the law, and the methods adopted to secure the beneficial results desired, have been made in order to indicate the complications and difficulties which intervene between the announcement of the necessity for a survey and the accomplishment of the work.

Without some explanation the difficulties encountered could not be understood, the caution and research required would be unknown, and the great amount of time needed for these unavoidable preliminary studies would not be comprehended. Even after these explanations it is likely that these difficulties will hardly be understood by those who have had no personal experience with this particular work. It is safe to say, that in no portion of the territories of a civilized state are such complications and such an accumulation of difficulties to be encountered in the execution of topographical and land surveys, as in the northern, or Adirondack, district of New York. The neglects or laches of a century are now required to be suddenly rectified. The unrecorded work of private surveys in many localities now demarks and limits the boundaries of the territories of the State; what was once deemed worthless has become valuable ; what is now deemed valueless may soon become of the greatest importance; and upon the accurate survey of barren and inaccessible lands depends the true location of the adjacent vast deposits of the purest magnetite, and the ownership of the forests, whose timber furnishes the charcoal with the aid of which the finest qualities of iron and steel are now manufactured.

LIMITS OF THE WORK.

It may, perhaps, now be thought that the extent of the work required for the accurate mapping of the public lands has been explained. Some might assume, hastily, that the extent of the undertaking was fully known when the area of the public domain was shown to be three-quarters of a million acres, divided into 4,000 separate parcels. Such persons might say the work to be done was the execution of 4,000 special surveys of the several separate lots or subdivisions, having an average area nearly equal to that of an ordinary farm of 200 acres; but accurate and permanently useful work requires a broader and more comprehensive view of the question.

To settle the true location of each one of these separate subdivisions owned by the State, the position, dimensions, boundaries and old survey records — if any exist — of the larger lot or township, within which it is located, must be studied. Still further surveys are then found to be required. It is found necessary to ascertain the true location of the township in the great tract to which it belongs; for it cannot be mapped unless its relationship to each and every other township in the larger tract be known. Invariably this work shows that the generally received ideas relative to the precise location of the townships are more or less erroneous. Townships which were supposed to corner at the same point are in some cases found to have separate corners a short distance apart, although, perhaps, upon one of the supposed intersecting lines. Strips of ownerless land, called gores, are found to exist, at times, between townships, and the straight or right lines shown upon the maps as the boundaries of the allotments are found to be at times very irregular and governed by no mathematical rule.

These irregularities in the lines of the allotments, or in any of the lines defining the boundaries of property, cannot and ought not to be changed. No principle of law can be better established than that which declares the boundaries of real estate to be limited and defined by the existing landmarks The decisions of the courts are explicit on this point, and the work of the surveyor engaged in restoring the boundaries does not consist in laying out new lines, but in ascertaining by the most careful measurements what the real form and location of the ancient lines may be.

The difficulty in satisfactorily executing this work of restoration is largely owing to the natural opposition existing in the human mind to a new view of an old question. It is, in this case, the difference between what people have imagined the course of the lines and the forms of the townships and allotments and their true courses and dimensions. The old maps show the lines as straight lines, and the townships usually rectangular. When these lines and forms come to be carefully surveyed by modern and more accurate methods; deflections are found in the lines; the boundaries are shown to be convex or concave, or more or less irregular in line. In consequence of these irregularities, when a lot has to be located, its distance from the existing lines must be obtained, and not its theoretical position with regard to the old and supposititious rectangular form.

The limits of the map work are not reached, however, even after the lot lines have been adjusted within the township. A hundred townships, each one in its own locality governed and controlled in regard to its position by the lines of the tracts — equally uncertain as to their true location and form — also require adjustment. These great tracts, being in their turn included within the limits of the huge "grants" or "patents" or "purchases" are limited, restricted and controlled by the dimensions and marked lines of these original conveyances, of which the great tracts, towns, townships and allotments are only sub-divisions, which cannot in any way control the boundaries or locations of the adjacent patents or grants.

Yet when we come to prepare a map of any one of the ten counties we find it made of a collection of surveys of these great tracts or patents or royal grants (or portions of them) whose boundaries are all more or less in doubt, so that, finally, the location of every county boundary, which is defined by any ancient survey line, is found to require an investigation and settlement of the boundary lines of each and every one of these grants or patents by re-survey in accordance with modern and improved methods.

Unless all these details are attended to, error is sure to creep into some portion of the work and introduce an element of uncertainty where all should be made practically precise.

The result of these investigations has proved, that for the preparation of accurate maps of the public lands, surveys must be systematically extended over the entire northern district of the State. The area of the ten counties mentioned in the law of 1883 is over 14,000 square miles. The following table shows the area of each county.

Counties.	Square miles.
The county of Clinton contains	1,092
The county of Essex contains	1,926
The county of Franklin contains	1,718
The county of Fulton contains	544
The county of Hamilton contains	1,745
The county of Herkimer (north part) contains	1,000
The county of Lewis contains	1,288
The county of Saratoga contains	862
The county of St. Lawrence contains	2,880
The county of Warren contains	968
Total area*	14,023

No systematic map, showing the true location of the subdivisions, can be made without a complete survey of the whole of this vast territory. The surveys of lots and lines must be connected and tested by trigonometrical measurements, the details of topography — of rivers and lakes, of elevations and depressions — must be filled in with precision upon the maps of the cadastral work, the locations of roads and highways and of the settlements and villages which they connect, and all similar details requisite for an accurate knowledge of the topography of the country, must be accurately shown if these surveys are to possess permanent value.

It must not be thought that this work is of such magnitude as to be beyond accomplishment. If sufficient means be provided, and the work regularly and systematically supported both by the legislative and executive departments of the State, immediate and rapid progress could be made, and all the desirable results which have been indicated above accomplished within a reasonable period of time.

The exact limits of time and expense can be speedily settled when the scale of the maps and the amount of minutiæ in the details of the topographical work have been settled upon.

On account of the delays, omissions and neglects of a century the restoration of the boundary lines, the technical land survey or cadastral survey, will be the most difficult and expensive part of the work, and will require the greatest amount of time and attention. The trigonometrical measurements, made with precision, in accordance with the most approved methods known to modern geodetic science, are absolutely necessary in the checking, testing and tying together of the widely separated lines of the counties, patents, grants or townships, and the determination of the true distances to the county, town and township corners; but the practical value of these trigonometrical measurements consists in the nicety with which they prove and test the land lines or property lines. The trigonometrical measurements, therefore, when viewed from the standpoint of utility, are necessary in closing and testing the practical land-line work; the geodetic lines forming not only the ground work of the future accurate maps, but the demonstration which the chief officers of the survey require to prove the accuracy of the linear measurements made in the field.

---

* Based on the census report of 1885.

Similarly the precise topographical work has its chief merit in its practical importance, in that maps prepared from such data are an exact miniature representation of the *real* natural features of the country from which any officer of the State, assessor or business man or scientist may readily learn where the boundaries and monuments are located by a moment's examination of these maps.

Thus it is seen that the land survey is of the most immediate practical importance and that the trigonometrical and topographical measurements are essential to the perfection of the work and must naturally proceed together. The different classes of work are interdependent. If they are carried on together in accordance with the methods pursued by this department in the execution of the surveys in the Adirondack region the expense will be far less than when compass surveys are hastily made by one set of men, topographical sketches afterward by others unfamiliar with the work of the compass surveyors, and trigonometrical surveys by others who know nothing about the land lines and topography.

Consistent, homogeneous work requires a thorough system continuously leading toward the important objects in view.

If there is any such thing as progress; if new and better methods, when discovered, are to replace the old and effete; if the rudely executed and heterogeneous compass surveys of a century, leading only to confusion, prove the necessity of adopting the more modern and precise methods, then we should endeavor to study the question in its most comprehensive form, and the work that is found to be necessary should be executed in the most complete, thorough and permanent manner possible.

It has been shown that the survey of the allotments and the location of the State lands leads up to the township, the great tracts, the grant, the patents and the boundaries of the counties themselves. All are involved more or less — here and there — in doubt, and in every case these doubts can only be settled by survey.

An accurate map of the lands in each county requires a survey of each county, and the limits of the State Land Survey are of necessity the boundaries of the counties within which the work is by the law ordered to be carried on.

It is as easy to do complete and permanent work, if the means shall be given for the employment of a sufficient field and office force, as to execute partial and temporary measurements. It is respectfully urged that no restricted view of this question should be taken and that means should be afforded for a comprehensive treatment of this great work, in the manner and to the extent which the investigations made during the progress of this survey, and heretofore explained, have shown to be necessary.

BASIS OF THESE CONCLUSIONS.

These conclusions have been reached after a special study, extending over more than twenty years, devoted to the most careful examination of the ancient records in the State departments and researches and scientific surveys in the field in every one of the ten counties mentioned in the law of 1883. It was only after these repeated and repeated attempts made to solve in different localities the disputed questions, by means of the existing data and new local surveys, had shown the great uncertainties in which all the ancient compass surveys are involved, that the amount of work required of the new Land Survey was understood.

At the commencement of field-work in 1883 communications were addressed to the State Comptroller and other officers of the State government, requesting them to advise this department of those matters affecting the State lands of which they had official cognizance, and which, in their opinion, required the most immediate attention.

The answers received proved that it was not only almost impossible in many places to identify the public lands, but that assessments upon private lands could not be accurately or properly laid on account of faulty descriptions and the general uncertainty as to the townships and great tracts in which the lands were situated.

The reply of the Comptroller stated that "the importance of the survey and map required can hardly be over estimated," and that "as matters now stand it is confusion worse confounded, for not a piece of land therein can now be accurately or reliably described." This reference was especially made to the prison lands in Clinton county in the fifth township of the Old Military Tract. The same difficulties have been found to exist in each of the counties in the northern district of the State.

After diagrams had been prepared showing the supposed location of the State lands in the several counties, a general study of all the problems requiring solution was made, and in every case the uncertainties attending the lot lines were found to be affected by uncertainties in the township and patent boundaries, and these in their turn led up to questions which involved the locations of the county lines. Having been authorized and directed by the Legislature to make special investigations in regard to some of these county lines, and finding the location of these lines to be essential in the preparation of the maps of the ten counties, I caused surveys to be made at those points where the investigations had indicated that the initial facts required in the settlement of these questions could be ascertained.

The field-work during the seasons of 1883, 1884 and 1885 has developed the most important results in every branch of the survey, and has afforded especially valuable data relative to the true location of sections of these lines identified and authenticated by substantial historical, local and topographical evidence which cannot be controverted. Important corners have also been searched out and identified, and with these starting points, and the great amount of similar data accumulated during the progress of the survey of the interior of the Adirondack region, the requisite basis has been acquired for the execution of the detailed work of the land survey.

It is true that in every section, as the work progresses, additional research among the ancient records will have to be made, and preliminary examinations in the field for line trees and topographical marks for the identification of additional sections of the old lines, but each new section as it is discovered and restored will afford better data for the search, and will form a substantial portion of the evidence by which other lines — now involved apparently in utter obscurity — may be found, restored and monumented for all time.

DATA AVAILABLE.

To show the amount of data available for the map-work, and as a basis for the further surveys to be made of the State lands, the following general statement may be made:

TRIANGULATION.

About one-half of the entire region has been covered by the primary triangulation of the Adirondack Survey, and secondary and tertiary triangulation has been made over a large portion of those sections in which the detailed topographical surveys have been conducted by this department.

These measurements can be made immediately available for the tying together of the land-lines, and have been connected with a number of important lines and corners of tracts of land during the seasons of 1884 and 1885, rendering it possible to plat the boundaries and show the location of the tracts which they limit.

The signal stations marking these trigonometrical points are upwards of two hundred in number, nearly all of them being upon prominent mountain peaks, within a reasonable distance of the boundaries and property corners which they are designed to locate. The primary and secondary stations are constructed in the most substantial manner. The signal is usually an open framework of wood, pyramidical in form, the centre being indicated by a vertical pole or mast, which is the point observed upon with the theodolite and measured to. These signals are secured to the native rock by iron bolts, leaded in, and the centres of the stations are marked by copper-bolts bearing inscriptions and numbers identifying the survey and station.

This system of measurements covers over six thousand square miles of Northern New York, the angular measurements representing in linear distances many thousand miles.

The records of these measurements are contained in a large number of closely written quarto volumes on file in the office of the survey in the Capitol.

Upon these records and these lines, as a basis, the triangulation can be rapidly extended over the remainder of the northern district of the State.

The precision of the work is all that can be desired, the results both in their quality and quantity having exceeded the anticipations of the professional experts from Columbia College and Union College, selected by the Legislature of 1885, to make a critical examination of the work of the State Surveys.

TRANSIT LINES AND TRAVERSES.

In the field-work required for the searching out of the lines of the property and the location of these lines in connection with the rivers, lakes, roads and general topography, a great number of toilsome and difficult measurements have been made.

An economical management of the work rendered it desirable that the linear measurements connecting the triangulation stations with the boundary lines and topography should be made in such localities and along such routes as were most certain to be visible from the signal stations.

It was for this reason, as has been explained in a former report, that the river and valley lines were selected as the locations along which the precise linear measurements, forming the base-lines of the topographical and land survey work, were located.

These secondary base-lines have been measured with every precaution essential to good practical work. The standards of measurement used were continuous strips of steel — tape or ribbon — graduated to feet, tenths and hundredths of a foot, with adjustable handles, balances and levels. The alignment was, in every case, made by transit, and the measurements repeated to insure accuracy.

Five of these secondary base-lines, thus measured, are from thirty to sixty miles in length, and are connected at various points with township, town and county lines. These points can again be found by reference to the station-marks cut in the stones set to mark the transit stations.

The principal transit and traverse lines are as follows:

	Stations and Monuments.
Between Plattsburgh, Clinton county, and Saranac lake, Franklin county, measured traverse along Saranac valley, number of transit stations..........................	542
Between Malone, Franklin county, to Meacham lake, foot of DeBar mountain via valley of Salmon river, measured traverse, transit stations	216
Between Potsdam, St. Lawrence county, and Downey's landing on Raquette river, measured traverse, the number of transit stations being........................	382
Between Willsborough, Essex county, and head-waters of the Boquet river, measured traverse, transit stations....	240
Between Glens Falls, Warren county, and North River station, Essex county (survey of Upper Hudson river), measured traverse, transit stations..................	438
Between Saranac lake, Franklin county, and sources of Cold river (survey of county line), measured traverse, transit stations	318

	Stations and Monuments.
Between Raquette river and the source of Cold river, measured traverse (survey of county line), transit stations,	282
Between Chazy and Chateaugay lakes, connecting State lands with township lines and establishing lines of Old Military Tract for future work, measured base-lines, transit stations..................................	415
Between important corners of State lands and the Adirondack Survey signal stations on Bog mountain and Bald hill, Granshue and Hollywood, St. Lawrence county, measured base-lines, transit stations..............	181
Between Jerseyfield lake and Stoner's lake (survey of Hamilton, Herkimer and Fulton county lines), measured traverse, transit stations..........................	434
On survey of Upper Hudson from North River signal station to Newcomb, Essex county, transit stations.....	177
On eight short base-lines and tie-lines in the counties of Hamilton, Herkimer, Lewis, St. Lawrence, etc., transit stations..	310
Total number of transit stations occupied...........	3, 935

In addition to these there are sub-bases measured for lake surveys and local work, which bring the number of transit stations on these secondary base-lines up to four thousand (4,000) in number.

In the technical field-work of the land survey — the restoration of boundary lines — very extensive linear measurements have also been made. These measurements having to be made with care, must not be expected to proceed with the reckless haste which has characterized the old compass work of the past. A great portion of the time is required in the examination and identification of the lines. Accurate measurement requires good weather, and the season during which good work can be done is limited to the brief summer time. The field-work of Assistant Locke during 1883 determined many important lot lines and corners, and his measurements cover over one thousand five hundred chains of line. The work of Assistant Francisco, during the same period, locating equally important lines and corners, affords a record of over one thousand nine hundred chains of careful measurement. All of this work is preliminary to the transit-line work in the new districts, and indispensable in the tracing out and restoration of the lines; yet, necessary and toilsome as these detail measurements are, they cannot conveniently be given in full in the reports without interfering with the clearness of the account of the work and of the results arrived at. They should, nevertheless, be copied or engrossed in permanent form, and should appear in the final publications of the survey as a record of the data upon which the results of the survey are based.

TOPOGRAPHICAL WORK.

The topographical measurements and contour sketching of the ground, while forming a distinct portion of the survey, has accompanied each step of the trigonometrical and linear work. The numerous plane table maps are based upon special trigonometrical and linear surveys; and the exact contour work, with the heights of mountains, passes, lakes and the gradients of roads and streams as far as measured, depend upon careful determinations with engineer's level and rod. In determining the basis for these elevations with engineer's level more than fourteen thousand (14,000) instrument and rod stations have been occupied. The topographical sketching of the ground having been carried on at all of these stations, the data is available for the preparation of the map of the region as soon as the means are afforded for the final computations, reductions and drafting.

Along the lines of levels run to afford an accurate basis for the topographical work, more than eight hundred (800) bench-marks have been cut upon stone reference points. These height monuments will be of the greatest importance in the future engineering work of this portion of the State, and it is respectfully urged that means should be provided for the checking of the field computations, and the copying and engrossing in ink of the records relating to these bench-marks, all of which should be published, in connection with the sketches showing the location of the bench-marks, so as to render this data accessible to any person desiring the use of it in field or office or private engineering work.

From the above brief statement of the results of the detail measurements made as a basis for the topographical work, it will be seen that the four thousand (4,000) transit stations along the secondary base-lines and the seventeen thousand (17,000) rod and instrument stations occupied in the execution of the height measurements, having been in every case occupied as topographical stations, affords over twenty-one thousand (21,000) topographical stations, each affording valuable data for the map of the State lands and Adirondack region.

It is a mistaken policy which allows this valuable data to remain unpublished. It should be printed and issued to the public in the form of maps and reports.

CONDITION OF THIS DATA.

The data in the survey office have been accumulating during a number of years, and the recent reduction of the appropriations has rendered it impossible to complete the computations of so great an amount of work covering so large an extent of country.

The entries and records made in the field by the engineers and surveyors employed upon the work have, of necessity, been made almost entirely in pencil, and portions of the map-work in crayon, and all of this work requires to be copied in india ink or other indelible pigment and should be done by the most skillful draftsmen that can be obtained, in order to produce record sheets equal to the value and cost of the work executed, in a manner suitable to the dignity and importance of the State.

These records cannot, with any propriety, be left in the form of incomplete pencil memoranda. It is essential that they shall be most carefully copied and accurately engrossed under the supervision of the Superintendent of the Survey; and it is believed that those portions of the records which are not to be published — consisting of repetitions of measurements and details used in checking, testing and proving the work — should be copied in duplicate for filing in different departments of the State to insure their preservation from loss or mutilation.

The results important for reference for the State and local authorities, for geographers, land-owners and travelers, should be published and thus be made easily accessible to all desiring the information.

COMPUTATIONS.

A great number of preliminary computations have been made during the progress of the field-work, sufficient to locate points required to be platted upon the plane-table sheets in advance of the topographical work, and for testing the general precision with which the work was being executed.

Most of these computations have been based upon separate data, which it was impossible at the time to correct and combine. Such detached, single computations made at different times, by different persons, require to be tested by systematic re-computations, under the direction of the Superintendent, in order to render it certain that no possible error has accidentally been made in the preliminary computations, and to make sure that the work has been executed in accordance with the instructions which the Superintendent found it necessary to formulate at the time that the field-work was being done.

These check-computations might have been made during the winters, had the means afforded been sufficient. The limitation of the appropriations, however, prevented the employment of the engineering force during the winters in the reduction of this data, and compelled the Superintendent each year, at the close of field-work, to discharge the greater portion of the survey force, only such clerks being retained in the office as were required to prepare the data for the field-work of the succeeding season—the researches and preliminary computations above referred to.

In the reduction of the geodetic work all of the calculations and adjustments, so far as finished, have been made by the Superintendent, personally, during such intervals of time as the duties of the supervision of the survey would admit. These official duties have been so onerous that months have at times elapsed of necessity before any opportunity would be given the Superintendent to make any computations in the higher branches of the work. The computation of trigonometrical measurements, in accordance with the principles of least squares, requires close attention during their execution. The data and books of reference are too voluminous and too valuable to be transported in the field, while traveling, and such computations should not be made in the midst of other important duties of an executive nature. Reductions of a large number of observations have been made in the shelter of the tents at camping places in the wilderness, but many of these reductions become spoiled and defaced by rain or moisture or by the rough transportation of the baggage, and have consequently to be re-computed. While the observations as they are made in the field require to be carefully studied in order to ascertain by the formulæ of the theory of probabilities, the probable ratio of error — so as to bring the result within similar mathematical limits of precision — yet the theory of least squares, as applied to the final adjustment of a great system of triangulation, requires the field work to be absolutely finished throughout large areas before the final computations can even be commenced.

It was for this reason that the final computations were deferred until sufficient data could be obtained for the reduction of the observations into one harmonious system in accordance with the most approved methods known to modern mathematical science.

While the land survey work shall be in progress the reduction of the trigonometrical observations can now be proceeded with — the more rapidly in proportion as more means are provided for the employment of skilled assistants.

These reductions are already in progress, the computations being made by the Superintendent, as his other duties will permit; but the amount of work is very great, the reduction of upwards of twenty thousand (20,000) angular measurements in the primary and secondary triangulations necessitate the solution of so many conditional equations as to require an almost infinite amount of time of any one computer.

It is respectfully urged that means be afforded for the employment of a sufficient computing force to facilitate the early reduction of this work. Although skilled computers in this department of scientific work are exceedingly rare and demand and receive a high rate of compensation, yet the work is of too important a character to the public and to the scientific world to be compelled to struggle forward under such difficulties, and should be put in form and published in a manner to make the results accessible to the people at the earliest possible moment.

MAP OF THE ADIRONDACK REGION.

It is proposed from the data described, to prepare for publication a map of the entire northern district of the State, on a scale of half an inch to the mile, or 1: 126,720, forming a sheet about seven feet square, or 84x84 inches.

This is designed to be a wall map, to show, so far as the data on hand will admit, the location of the patents, great tracts and townships in the ten counties mentioned in the law of 1883 and, consequently, the general location of the public lands.

No map of the Adirondack region or of the northern district of the State has as yet been published by this department, in consequence of insufficiency of the means for the reduction of the data; the re-computation and platting of the distances, and the reduction of the great number of field-maps in the office to the same scale required for publication.

Additional field-work will be needed to fill in important sections, even upon a map of the smallest scale. This data will be obtained when the survey shall be extended over these areas; but, in the meantime, it is extremely desirable that a preliminary map of the entire district shall be platted and published. Such a map, giving the latest results of the survey, will be of the greatest utility to the authorities charged with the police management and improvement of the public lands; it will enable the Commissioners of the Land Office to act intelligently in regard to their official duties in this district; provide the tax department with a reliable basis for the description of the lands carried upon their books, and will furnish the public with information long desired and greatly sought. More than this; this wall-map will be of the greatest advantage to the survey parties engaged in the extension of the work of the land survey to the different detached allotments of State lands. It will furnish each survey party with an accurate basis for its work, and a map upon which each new discovery can be platted, until all the blank spaces have been filled in and a perfected map at last secured.

If means be given for the execution of this work, this wall-map can be prepared by the close of the present year, and a material advance will have been made in the geographical knowledge of the region, while a permanent basis will be afforded upon which all future surveys can be platted.

MAPS OF STATE LANDS.

Maps showing the results of the surveys of the State lands have been prepared, and a large number of these sheets remain to be completed before they can be filed in the several offices of record as directed by the law. The duplication of these maps is required by the law, but the copies which are to be filed can only be made after an appropriation is provided to meet the expense of the work. All the maps of State lands, which have been prepared in this department, have been made at the expense of the Superintendent, the last appropriation having been exhausted in the field-work.

The mapping of the results of the work done should certainly be completed, and the copies made and filed in compliance with the law. It is hoped that the means for this work will be provided.

PUBLICATIONS.

In addition to the proposed wall-map and the requisite land maps there are numerous topographical sheets, carefully drawn in the field, and finished maps of various sections, which are of so much importance and will add so much to public knowledge of the geography of the Adirondack region and northern district of the State that their publication cannot be too strongly urged.

The maps of the survey of the upper Hudson furnish the first accurate location of the course of the main channel of that river to its source at Mount Marcy, the measurements showing the location of all the mountains and hills which inclose the valley of that stream; the affluents of the river, and all details of topography on a series of plane-table sheets, on a scale of one twenty-thousandth part of nature (1: 20,000).

Similar maps of the Schroon valley line, the Boquet river, the Saranac river, the Salmon river, the Raquette river and the Beaver river, form together an interesting atlas of manuscript maps which, to be thoroughly useful, should be in the hands of the public.

The measurements upon which these maps are based, and the descriptive text which should accompany them, will form the first detailed scientific account of this interesting portion of the State.

It is believed that not only these maps but all the most costly and valuable results of the survey should be embodied in documentary form and published in a series of quarto volumes, somewhat as follows:

I. A volume giving the data on which the results depend, the triangle closures, and the conditional equations, with descriptions of the stations and sketches or plans by which they may be identified.

II. A volume giving the geographical positions, latitudes and longitudes, and results of the triangulation, the distances from station to station in metres, yards, feet and statute miles, with the azimuths, back azimuths and explanations.

III. A volume giving the results of the geodetic leveling to include also the trigonometrical leveling and barometric hypsometry, giving the description of all the bench-marks or height-monuments throughout northern New York, with their precise heights above mean tide level at Governor's island in New York harbor, and tide level and datum at Albany, with the precise heights of mountains, mountain passes, lakes and plateaus, and the profiles illustrating and explaining the work.

IV. A volume on magnetic observations giving the variation of the needle at the many hundreds of stations in northern New York which have been occupied by this survey, with the amount of annual change of variation, and the allowance necessary to be made for the change in the pointing of the needle in the retracing and restoring of the ancient boundary lines of patents and allotments.

V. A volume on the meteorology of the region, giving the rainfall and barometric and temperature observations taken by the present survey, and memoranda relative to the climate of the region, with explanatory text.

VI. A volume of narrative describing systematically the location of the different sections of work; the location of the monuments placed, the signal-stations erected, the measurements by which the copper bolts marking the stations can be found and the adjacent corners and boundaries of lands identified, and all the details of a general and scientific nature that have been observed during the progress of the survey, which form a part of the history of the work, and are necessary to an understanding of it and its future utilization.

Each of these quarto volumes should contain such illustrations (lithographs, photo-engravings, wood-cuts, plates, folding maps and profiles) as may be required to explain the text and identify the localities.

Justice to the work which has already been completed, a due regard to the importance of the information which these volumes will contain, and the dignity of the State whose territory they will describe, renders it important that this atlas and these volumes should be published in the best possible form and manner. It is respectfully urged that power be given to the State authorities to make a special contract for the publication of these volumes as soon as the adjustment of the data shall have been made, the computations completed and the text prepared.

CONCLUSION.

The extent and importance of the surveys which have already been made have now been explained as far as can be without an inspection of the maps and measurements themselves. These maps and these results, to attain their full measure of value to the public, must be printed. The credit of the State requires the publication in proper form of all those results which show the extent and importance of the region, and which convey to the world a knowledge — not only of the true geography of hitherto unexplored portions of New York — but also those facts in regard to its topography and the location of boundaries that define the ownership of property, and which are essential to an understanding of the great resources of this region, and to the closing of the disputes that impede the development of its border settlements.

The extent of the work yet required to be done has been outlined, and has been shown to involve, of necessity, the detailed survey of all important boundaries throughout the ten northern counties.

The extent of territory over which these surveys will have be to made must not be underestimated. The State of Massachusetts, with its seven thousand eight hundred square miles, is little more than half as large as these ten counties of New York. The State of New Jersey, although of larger area than Massachusetts, falls far within the limits of the area of this vast northern territory, yet each of these States has been surveyed in accordance with modern, precise, scientific methods, and Massachusetts is now engaged upon its second systematic survey, required in consequence of a false economy in the conduct of the original work. South Carolina is also engaged upon a trigonometrical and topographical survey; so that north and south, east and west, the modern systems of survey have been put into practice; the plains of Kansas, Colorado and Nebraska; the gorges of the Rocky mountains and the Sierra Nevadas; the serpentine course of the Mississippi and the Missouri, and the meanderings of the Columbia and the Willamette have been mapped, while the surveys of New York are allowed to languish for lack of the trifling support necessary to carry them to completion.

If New York is indeed a State of imperial dignity and power; of great population, wealth and commercial importance, it should take advantage of those practical methods for reducing the business operations of its people to the more perfect system, which the older civilizations have found to be necessary or advantageous. The British Empire, France, Germany, Italy, Switzerland, India and the distant islands of Japan have their perfected systems of surveys, and the knowledge which these surveys afford forms a basis for public works and improvements. Knowledge *is* power, and accurate information in regard to every physical feature of the State is essential to a proper understanding of our opportunities, and that systematizing of our business methods which can alone bring renewed prosperity.

If the wild territories of the West had been rudely surveyed with the magnetic compass alone, the ownership of those lands would have been involved in the same doubts and complications that have in so many places delayed the development of the resources of New York; but the United States government, by adopting a system of astronomical meridians and parallels, avoided most of these difficulties and placed the location of boundary lines throughout the territories almost upon a mathematical basis. The United States system would have been practically perfect had it not been for the attempt to lay out rectangular townships upon the spheroidal surface of the earth, and this defect can be readily traced to a lack of scientific thoroughness and completeness in the plan. We should profit by the experience of others, and not only replace the magnetic compass by the solar transit and theodolite of the surveyors of the western territories, but go further, and, keeping in the fore-front of scientific advance, show to the world that New York, when aroused, is able to do this work in the most thorough manner, to solve the vexed problem of the past, and to unite and knit together all the detached surveys by the most improved methods known to geodetic science.

The work of triangulation of the northern district of the State is now about half completed. The detailed surveys of the rivers, and the topographical work executed with plane-table, furnish data and maps which should be promptly published. The land surveys already executed have settled the location of many important boundaries, and are a key to the solution of other problems relating to boundaries dependent upon them.

These surveys are necessary and will have to be made. The law requires that this department execute the work. The work has been begun, the researches made, the lands examined, the scientific methods perfected.

An appropriation of $50,000 per annum for ten years would employ an office and field-staff of about twenty trained surveyors, mathematicians, draughtsmen and clerks, and a field force upwards of between one and two hundred assistants, signalmen, rodmen, chainmen and laborers; and would provide for the placing of the monuments at the township and county corners and the perfection of the large scale assessment maps of the entire district.

Compared with the cost of foreign surveys this work will be one of moderate expense. The appropriation would be about one-tenth of the amount annually devoted by the Austrian government to the surveys of its territory, or one-quarter of the appropriation made by the Prussian government for similar purposes each year.

With the really moderate appropriation suggested, a proper force of employees could be engaged and the work rapidly pushed to completion.

The earnest co-operation and support of both the executive and legislative departments of the State government, if continuously given, will render the work remaining to be done comparatively easy. It is earnestly hoped that this support and this co-operation may be given, so that the time of the Superintendent and his assistants may be uninterruptedly employed in the field and office work necessary to insure the results desired.

In the appendix to this report will be found estimates for the completion of the office work on hand and for the preparation for publication of the data of the survey work done. A sketch of the origin, progress, and present condition of the land surveys of New York is also given, and maps, etc., with explanatory text.

All of which are respectfully submitted,

VERPLANCK COLVIN,
Superintendent.

Appendix A.

Estimates for the Year 1887.

For salaries of Superintendent, assistants, clerks and surveyors....................................	$19,500 00
For stationery, blanks, forms for records, printing and binding.....	1,850 00
For engraving, etc., of large wall-map of Adirondack region and northern districts of the State........	2,500 00
For the publication of six quarto volumes of the results of the survey of the Adirondack region...........	9,000 00
For field-work necessary for the filling in of details of topography in special sections..................	5,000 00
Total....................................	$37,850 00
The contract for the printing of the series of quarto volumes containing the results might be deferred until the text shall be all in form for printing. This would admit of a deduction from the above estimate of..	9,000 00
Making a total of........................	$28,850 00

As the cost of reducing and placing in form the data now on file in this office.

Appendix B.

AN

HISTORICAL SKETCH

OF THE

ORIGIN AND PRESENT CONDITION

OF THE

NEW YORK STATE LAND SURVEYS

BY

VERPLANCK COLVIN,
SUPERINTENDENT.

NEW YORK STATE LAND SURVEY,

ADIRONDACK REGION.

VERPLANCK COLVIN,
SUPERINTENDENT.

(Offices in the New Capitol at Albany.)

This survey, as at present organized, is essentially an administrative work, intended to furnish data for the State government for the better management of the public lands. The survey accomplishes this advantageous result by a revision and correction of the ancient colonial land surveys, by new surveys in accordance with the modern and most improved methods, and by securing such general topographical information as will afford more accurate maps of the State. The object of the work is to render the existing boundary lines permanent, and to restore those which have been lost or destroyed; to mark important property lines and corners of counties, townships or allotments with permanent stone monuments in place of the marked trees or stakes which, until the initiation of the present survey, were the only marks left by compass surveyors for the guidance of owners.

In consequence of the laws — under which the present surveys are being conducted — having required an exploration of the Adirondack wilderness in the northern district of the State, and the rendering of reports descriptive of the character of the region examined, this survey has a scope beyond the usual limits of the cadastral or land surveys; and the scientific departments attached to the State government have, through the medium of the reports of this survey, given an account of the fauna, flora, and mineral resources of the region, and such occasional geological memoranda as appeared to be new to science.

The popular title of " Adirondack Survey " arose from the name of the extensive group of mountains among which a great portion of the work of the survey has been conducted. These mountains extend over a large portion of ten of the northern counties of New York, which have an area more than twice as great as that of Lake Ontario, or more than the combined area of the States of Massachusetts and Connecticut. The Adirondack mountains rise to a maximum height of over a mile above sea level at Mt. Marcy, in the county of Essex, where a group of peaks of laurentian rock, rising above the timber line, possess an arctic flora natural to their elevation and latitude. These are the most lofty summits within the State of New York, and the climate here is, consequently, the most severe in the State. The remainder of this district, although everywhere mountainous, is not so elevated; the summits — at times gathered in groups, at other times extending in ranges — decrease in altitude as the high peaks of Essex are receded from, and while a great number of peaks are found between the elevations of three thousand and four thousand feet above the sea, the greater part of the marginal region is traversed by irregular ranges, whose height above sea level is between two thousand feet and two thousand five hundred feet. The entire wilderness, with the exception of the high Alpine summits and occasional marshes and intervals, beside the lakes and rivers, is a forest so dense as to cut off all view of mountains or other landmarks when once entered. The traveler in these forests can only proceed from point to point with the aid of a skilled guide — one of the inhabitants of the border of the region — whose local knowledge of marked lines and trails, of portages from lake to lake, and of passes through the mountains, render his services absolutely necessary to one unfamiliar with the ground, even though he be a skilled woodman. These dense forests and the frequent beds of pure magnetic iron found throughout the region form the wealth of this portion of New York, and, in connection with the almost limitless water-power and large reservoir lakes which maintain two of the great canals of the State, have wisely received the fostering care and attention of the State government. The value of the products of the Adirondack forests and mines, and of the industries dependent upon them, may be placed at many millions of dollars. These technical considerations, however, are not germain to the history of the survey, although they show some of the motives of the State government in organizing the present work.

It may be necessary to explain that the soil of New York is owned by the State, and that the State government *alone* has the right to take any portion of it by eminent domain. This sovereign right is not possessed by the United States government, for the Federal government cannot so much as purchase any portion of the territory of New York, unless permitted so to do by the passage of a formal act by the Senate and Assemby, approved by the Governor of the State. The wild lands of New York are the territories of the State government alone, and are only subject to the administration and control of the State authorities. Under the Constitution and the laws, the holders of real estate within New York are only the tenants of the State, the real and personal property of any citizen dying, without heirs and without will, reverting to the State. This State ownership of all lands was the consequence of the revolution; the State inheriting from the English Crown all its rights, powers and privileges not extinguished or expressly surrendered to the General or Federal government. The consequence has been that the English common law, especially that portion which relates to real estate, having been the law of the colony of New York, formed the foundation of the law of the State.

It is necessary to bear in mind the origin of the laws of the State, and of the manner in which the laws affect the ownership of lands in order to properly appreciate the system of land surveys now in existence in this State, to understand the object of the many departments of work; the relationship of the scientific methods of measurement to the legal and practical requirements which have led the people through their legislative representatives to formulate the laws under which the present cadastral and scientific surveys are being conducted.

HISTORICAL REVIEW.

While it is not necessary to give even an abstract of the colonial and State laws in the present paper, yet a review of the history of the origin of the public surveys of New York is essential to a proper understanding of the difficulties surrounding this work in a portion of the continent where the land titles are most involved and complicated.

From a legal standpoint, the history of New York might be divided into three periods. The first would be the period of the

Dutch supremacy; the second, the English colonial period; and the third epoch covering the origin and progress of the State government down to the present time. The land titles are all originally either by treaty or other form of conveyance, or by conquest, derived from the native Indians, and in the northern portion of the State, near Lake Champlain, a number of extensive grants were made by the French government at an early period. The Indian deeds of conveyance, and the surveys made (with compass and chain) by the purchasers, have still constantly to be referred to in the adjustment of titles in the modern system of surveys, and the ancient land-marks and descriptions of topography along lines traced by the first explorers — the crossings of streams and lakes, the summits of mountains and brinks of cliffs, occasionally described as located upon these boundaries, are now important aids in the re-discovering and monumenting of these governing lines. It is to be regretted that so little mention was made by the early compass surveyors of these characteristic features of the ground traversed by their lines, and that even these brief and occasional notes were so indefinite. In all future surveys the laws should rigorously require precise records of all topographical features of the ground to insure the future identifying of the boundary.

It is owing to the peculiarities and complexities of this ancient system of surveys that a topographical survey alone, independent of the land lines, would be nearly valueless to the State authorities. Maps of the State, and particularly of the State lands, showing only the topography, without the land lines and political divisions, would be considered by the authorities and by the people as absolutely worthless, and would meet with merited scorn and contempt.

The great Commonwealth of New York requires for its maps detailed surveys which shall show every natural feature of the ground, capable of being depicted upon paper, in connection with an accurate plan of all the subdivisions of property and the actual or the theoretical lines which, under the laws, control questions of assessment or taxation.

Such maps, in all civilized countries, have come to be regarded as graphical indices to the system by which the State government cares for the interests of its people; affording at a glance a knowledge of the relationship of the political system to the physical features of the State.

The Cadastral survey of France, covering a country once divided into great feudal estates, was, perhaps, the first organization to encounter these peculiar difficulties. That great work rendered possible equitable assessments, and is one of the noblest monuments of the thoughtful foresight of the first Napoleon.

The land surveys of New York have not been especially modeled after the Cadastral survey of France, but rather upon the combined methods of all the great land surveys whose publications have been issued to the world during the last century. In the evolution of methods, the necessities of the people and the views of State officers as to the extent and limitations of the work have rendered the appropriations small, and have thus restricted the *amount* of survey work done, although the instruments and methods have been the best known to science.

EARLIEST SURVEYS.

As already mentioned, the first surveys were made with chain and compass during the Dutch colonial period.

Only thirty-three years after the discovery of the Hudson the office of Surveyor-General of the colony of New Amsterdam was created, and Andries Hudde being the first incumbent (A. D. 1642). He was succeeded in office in 1648 by Claes Van Elslant, Hulde again taking office in 1654, to be followed by Peter Van Couwenhoven in 1655, who was in turn succeeded in 1657 by Jacques Corteljou, who retained his office until 1671, although the Dutch power had ceased with the capture of the colony by the English in 1664.

The recapture of New Amsterdam in 1673 by the Dutch was but a temporary change, and we may consider that the Dutch system of surveys and measurements — differing only in their linear standards from the existing English system — came to a close with the termination of the official career of Corteljou in 1671.

What the Dutch standards of measurement actually were at that time is not now precisely known. The State office of weights and measures contains no record relative to these measures, nor any standards that have been identified as belonging to this period. Yet the boundary lines as then marked have to-day to be adhered to, and the limits of the patents granted to the Van Rensselaer's, the Coeymans', the Schuyler's, Courtland's and others, were primarily located in accordance with ancient standards, whose length we are now only able to infer from the recorded distances in the ancient deeds between land-marks now rarely to be found. The importance of a knowledge of the standards of measurement during this period will be better appreciated when it is remembered that at this time the "foot" measure of Europe varied in every kingdom and principality.

When we remember that some of the early grants were made in miles during the Dutch ascendency, and that the mile (old measure) of the European continent is usually more than four and a half times greater than the English mile, while the English foot is, on the contrary, greater than the old standard continental average foot measure by from one-half an inch to nine-tenths of an inch, the difficulties which are met with and the caution which has to be used in restoring the ancient boundaries may be understood. Indeed the care and precaution that is required where the lines of the oldest colonial grants are being restored does not end with them, for it is probable that the surveyors of the colonial period sold or transmitted their surveying chains and other apparatus to their successors, so that where the Dutch measures ceased and the English standards prevailed is a question ever presenting itself for solution where the colonial lines are encountered; while the introduction of such worthless measures as ropes and the like, in a few localities, occasion greater difficulties.

Modern survey work in the region of the ancient Dutch patents is thus seen to be complicated by a lack of knowledge of the absolute standards of measurement used under the old Commonwealth, and the natural decay and disappearance of land-marks after the lapse of over two centuries. The difficulties encountered in restoring such boundaries and the location upon the new charts, the true topography within the restored limits might appear to be almost insurmountable, but, by careful study and diligent work, may gradually be made to disappear.

During the English colonial period the office of Surveyor-General of the colony was continued, commencing with Philip Wells in 1683, and terminating — as far as the English government was concerned — with Edmund Fanning, appointed June 30, 1775.

Compass and chain were very active during this period. Almost every piece of unoccupied territory along the Hudson river from New York to the head-waters of the river and beyond as far even as the shores of Lake Champlain, was the subject of barter, and of treaty with the Indians. The western limit of these "purchases" — as they were primarily called before patents had been issued by the Crown — was to the westward of the present city of Utica, the ancient Indian boundary line traversing the fields of Clinton, Oneida county, where Hamilton College now stands.

It was during this period that the famous "Royal grant" was made to Sir William Johnston of the valuable lands to the north of the Mohawk river, and the Jerseyfield patent and many other tracts secured from the Indians; the last great land transaction prior to the American Revolution being the acquisition by an association of speculators, actually led by one Ebenezer Jessup, but nominally headed by two ship carpenters of New York, from whom the great tract of over eight hundred thousand acres takes it name of "Totten and Crossfield's purchase." Ebenezer Jessup undertook to have this large area divided into townships, each of about thirty-six square miles area, for the sum of five pounds sterling per thousand acres, or about $20,000, which was a very considerable sum at that time. The outer boundaries of the purchase were already limited to the southward and eastward by some of the existing patents, and starting from the Upper Hudson the boundaries of this great tract were hurriedly traced with compass, and a great number of township lines marked on the trees. This was in 1772. In a few years the battles of the Revolution brought these enterprises to a close, the Crown lands were confiscated by the Revolutionary government and the English colonial period was terminated.

The organization of the State government found the young Commonwealth exhausted by war; its treasury empty; its only wealth the lands which it had wrested from the Royal power. It was no great discovery in the statemanship which led politicians of the period to advocate the sale of these lands to meet the expenses of government, and their disposal to any one willing to purchase them became the policy of the period. The office of Surveyor-General was renewed March 20, 1781, and the old system of survey with magnetic compass and chain was resumed. Ten years later the land survey work of New York was almost brought to a close by the purchase from the State, by Alexander McComb, of that enormous tract of nearly four millions of acres which was supposed to cover nearly all that remained of the State's possessions in northern New York.

In 1817 the attention of the State authorities was largely engrossed with the proposed construction of the Erie canal, and the decadence of the survey system of the State became more marked. As the canals increased in importance and in number, and as railroads began to be built, a proper system of civil engineering became essential to the economy of these works and to the protection of the public, so that in 1846 the office of State Engineer was created, and he was termed the "State Engineer and Surveyor," the office of Surveyor-General being abolished by law in 1848.

A stupor seems to have fallen upon the surveys of the State from the time of this amalgamation of offices down to the time of the close of the War of the Rebellion. That contest showed the importance and absolute need of accurate topographical maps to a proper understanding of the physicial features of the States, of the methods proper to be pursued for the development of their commercial interests, and for the prompt and safe movement of troops protecting the institutions of the country.

In 1865 the writer of the present paper commenced those explorations of the northern or Adirondack wilderness of the State which have undoubtedly led to the organization, under legislative authority, of the modern scientific surveys of New York. Intending to examine certain wild districts which appeared as blanks upon the maps of the State, and to trace out the course of rivers whose sources and locations were topographically unknown, he searched the records of the State for the data of the ancient compass surveys, and prepared a skeleton-map sketch to be used during his explorations as a basis for study and for graphical memoranda.

Upon examining the region, to his amazement he found that most of the topography as recorded upon the old maps in the office of the State Engineer was erroneous, and of no value as a basis for new work. The guides of the wilderness showed him lakes where the old survey maps located mountains, and mountains where those maps had shown lakes. Many of the ancient surveys were evidently grossly erroneous, though it was to be assumed that the majority of the old compass surveys of the wilderness were approximately as good as the other colonial surveys. But this was found not to be the case, as the local attraction of the magnetic iron ores of the Adirondack region caused great variations in the magnetic declination, and the rough and mountainous nature of the district had led to errors in the chain work not to be expected in the more level portions of the State.

These explorations were continued personally, and at the private expense of the writer of this paper during the years 1866, 1867, 1868, 1869, 1870 and 1871. In 1870, at the request of the Secretary of the Board of Regents of the University, he communicated an account of the first ascent and measurement of Mt. Seward, made by him that year. To this mountain had been attributed a height of five thousand one hundred feet above the sea by the State Geological Survey. This, he proved by his actual measurements, had been but a rough guess, exaggerating the height of the mountain. After different ascents and repeated measurements, the writer found that the summit of Mt. Seward was actually seven hundred feet lower than the height attributed to it. It was therefore probable that many other mountains whose heights were recorded in the reports of the State Geological Survey as exceeding five thousand feet above the sea were really much lower, and that the general topography of the region as exhibited upon the existing maps was grossly inaccurate. By 1872 he had accumulated a great amount of detailed information relative to the topography of the Adirondack region, but in attempting to arrange this data within the limits of the surveys of the ancient patents found great difficulty in executing the work, which was only explained by his accidental discovery of the many and frequent variations in the magnetic declination throughout the region. As the region was a dense unexplored forest, the magnetic compass had been, until the present time, deemed absolutely necessary in traversing the region, and it was believed by all forest surveyors to be sufficiently accurate for explorative surveys. When back and fore sights were compared from various points the irreconcilable errors caused by the deflection of the needle induced by the beds of iron or disseminated crystals of magnetite in the rock, showed that an accurate survey could only be made by a triangulation developed from precisely measured base-lines located on the cleared plains at the margin of the wild region as a basis; the details of topography being worked in by the means of the plane-table or by line surveys with transit, etc.

About this time the United States Coast Survey commenced its hydrographic work on Lake Champlain, and it occurred to the writer that some of their base-lines might be made available for the triangulations of the interior.

Against his proposition to thus continue this great work at his own expense his friends protested. It was truly said that the expenditure necessary to be incurred would be very great; that the labor of years would be required; that his private fortune would be impaired by attempting such a work, and that as he possessed no lands or other interests in the region proposed to be triangulated to receive the benefits of so precise a survey, it would be unprofitable to him and, therefore, should not be attempted.

On the other hand, he claimed that he had given too many years to the study of the topography of this region to leave the work unfinished.

It was then suggested that this was a work of a public character which the State should have executed, and if done by private enterprise it should at least receive the aid of the State as a work of public benefit.

Application was accordingly made to the Legislature and a small appropriation — less than was asked for — was granted, a report being required of the results of the survey. The report, the first of the Adirondack Survey series, was duly transmitted to the Legislature of 1873. It gave a narrative of explorations made during 1872, and an account of the initiation of the trigonometrical work by a series of reconnaissance measurements with a light theodolite, the lines extending from the proposed base at Lake Champlain westward over the high summits of Essex to the heart of Hamilton county. The appropriation was found to be totally insufficient for the work contemplated, but discoveries of great importance were made; the highest lakelet source of the Hudson river was discovered near Mount Marcy — Lake Tear-of-the Clouds, four thousand three hundred and fifty-one feet above the sea — and the dividing line between the head-waters of the Hudson and St. Lawrence traced and mapped. A large number of height determinations were made with mercurial mountain barometers — constructed by James Green on Fortin's principle — and twenty-two important mountains were ascended and measured during the progress of the work.

This report was received with favor by the Legislature and a larger appropriation was granted for the ensuing year. During 1873 the triangulation (still of the character known to military surveyors as "reconnaissance triangulation," was continued with light theodolites. During this season the system proposed was developed, the heliotrope was used in observing to very distant stations, and a very convenient form of automatic flashing signal was devised by the writer and placed at numerous stations, doing good service for distances nearly as great as those for which the heliotrope had been employed. The law making the appropriation required the exploration of the wilderness to be continued, and the investigations were extended over new areas; the natural drainage basins of the region were examined, and over one hundred and eighty lakes reconnoitered and referred upon the maps to their true river systems, either approximately, upon the field charts, or routes of survey found by which their position would be determined by future work. Most of these lakes were hitherto unknown to geographers, and many of them appeared never before to have been visited by man, being located in the dense *Cough-sa-gra-ga* of the Indians, which has been translated as the "howling wilderness," or the fearful enchanted desert void of game and food and dreaded by the ancient habitants as the awful region of sterlity and starvation.

In examining the region of Adirondack lakes, a study of their elevations showed that many bodies of water belonging to different river systems were located so nearly at the same level that they could be connected by short canals. This was first suggested in regard to the Raquette river waters by Prof. Benedict — since deceased, — who made many barometric observations in the region as early as 1840. This system of barometric measurements was extended during the present survey by direction of the superintendent, and it was proved to be only available for reconnaissance. For this reason, from this time forward (following 1873–74) all differences of level between lakes were determined with engineer's level and rod in accordance with the system hereafter described.

It is not necessary to detail the work accomplished during each season. Mention of a few prominent results will give an understanding of the nature of the survey.

The panic of 1873, and the disasters in business following that period, caused a reduction in the appropriations by the State, and compelled the Superintendent to make large personal expenditures to carry the work forward.

In 1875, the first measurement with engineer's level and rod, of Mt. Marcy — the highest summit of New York — was made by the Superintendent with two assistants, and the usual survey force, and the height found to be five thousand three hundred and forty-four feet above the sea. Forty miles of levels were run during this season, and a great amount of other important work done. During 1876 the trigonometrical reconnaissance measurements were extended to the northward and southward of the central line examined in 1873, and a line of levels run with engineer's level and rod nearly half-way across the wilderness — from Beaver lake, near Lowville, Lewis county, to Beach's lake in Hamilton county. A traverse was at the same time carried along southward of the Beaver river and the first maps of that hitherto unlocated stream were now secured.

Space does not admit of a detailed account of the work of the survey; this must be sought in the published volumes of reports, of which thousands of copies have been issued by the State. Only such results as indicate the character of the work being done can be given. In 1877 the line of levels across the wilderness was completed, the chain of measurements extending from Westport on Lake Champlain across the counties of Essex, Franklin, Hamilton and Herkimer into the county of Lewis. These measurements gave the true heights of a great number of important points in the region of the head-waters of the Au Sable, Saranac, Raquette and Beaver rivers, and the hundreds of stone bench-marks located will remain as permanent monuments and bases for all height measurements. There is no space to refer to topographical and trigonometrical work, accounts of which are given in the reports.

In the report rendered by the writer to the Legislature for the year 1873, he had recommended a general trigonometrical and topographical survey of the State. It appears, from statements recently put forth, that such a survey had been previously recommended by different Governors of the State, but without action by the Legislature.

The present recommendation was, however, promptly acted upon. In 1876 an appropriation was made for this survey under a board of commissioners, providing for surveys in the southern and western portion of the State. In 1878 both the Adirondack and State Surveys were reorganized under their existing officers, and further appropriations made. Inasmuch as the work of the State Survey has been elsewhere very fully treated, the writer will confine this recital to the work placed under his exclusive superintendence — the Adirondack and State Land Surveys — only remarking, with regret, that the work of the State Survey was at this time limited by law to a simple triangulation, the law prohibiting the State Survey from executing topographical or land surveys.

During this period, although the State had absorbed the results of the Adirondack Survey in the reports rendered during the six years between 1872 to 1877, inclusive, as well as the results of the six preceding years of study of the topography of the Adirondack region between 1865 and 1871, not one dollar of salary or compensation for his services had been paid to the writer of this paper, although he had from his own private funds paid a great portion of the expense of the work of survey. The value of his time given to the study of this region during these twelve years, taken in connection with his personal expenditures during this period, have been estimated at over $60,000. During six years of this period the State made appropriations amounting to a little over $11,000. The balance due the Superintendent and the salary promised him have never been paid, although the sum of $5,000 was appropriated in 1873 for this purpose, and still lies in the treasury of the State, unexpended.

This statement is made in order to record the financial conditions under which this survey has been conducted, and the great personal cost at which the Superintendent has prosecuted the work.

During the six years following the period above mentioned — *i. e.*, between 1878 and 1884 — less than $15,000 was paid to the Superintendent for his services in conducting the survey, and nearly one-third of this sum was expended in paying expenses of additional work ordered by the Legislature, for which either no appropriation or only inadequate appropriation was made.

It was under these conditions that, in 1883, before the expiration of the law regulating the Adirondack Survey had expired, a new law was passed creating the State Land Survey, and making appropriation therefor, and the Superintendent of the Adirondack Survey was, in the same law, directed to take charge of the new work.

Thus organized, the State Land Survey was begun in 1883; and, as the law directs that "the methods of survey shall be in accordance with those now in use on the Adirondack Survey," the new work was rapidly systematized and the methods of survey adapted to the new and extended field of action. As this law placed the location of the boundaries of the State lands absolutely under the direction of the Superintendent of the Adirondack Survey, and required the preparation of land maps of ten of the largest counties of the State — Clinton, Essex, Franklin, Fulton, Hamilton, Herkimer, Lewis, Saratoga, St. Lawrence and Warren — whose united area is nearly equal to fifteen thousand* square miles, the enormous amount of work involved will be appreciated.

To settle the disputed boundary lines alone — the subject of the legal controversies of half a century — would require a careful legal examination of the ancient records, of the royal grants, of the patents from the State, of deeds, conveyances and tax sales; a work sufficient to form the labor of one department. From these descriptions the tracing out and restoration of the original boundaries in accordance with the colonial magnetic surveys, the discovery of boundary trees anciently marked in the forests of the wilderness, and the restoration of the points of departure or closure of lines (called corners), the discovery of the causes of legal controversy, of the accidental errors of the ancient surveys, and the measurement of the true distances and directions, formed the land survey proper — in itself a special department of work.

---

* Deducting the south part of Herkimer county, fourteen thousand square miles.

The topographical sketching and requisite measurements in the interior for the determination of heights and the location of the physical features — mountains, rivers and the like — the details of map-work formed still another distinct department, of necessity closely associated with the land-line work, but requiring the services of trained topographers.

The connection and tying together of all these different departments of work into one harmonious system, by the precise methods of trigonometrical measurement, and their orientation by reference to the primary meridians and parallels of the United States Coast Survey, formed the necessary complement to the other departments of work.

The State Land Survey was therefore reorganized in accordance with the system above outlined, and the results of the first season's work are given in the report published in 1884, a volume of three hundred and forty-three pages, which is accompanied by illustrations and maps. During this season alone thirteen survey parties were placed in the field.

The general functions of the survey, the manner in which it arose — a natural and systematic growth — the laws instituting the work and their modifications have now been sufficiently outlined for the purposes of an historical sketch.

The work is not connected with any other department or institution directly or indirectly, although under the special law of 1883 copies of certain land maps are to be filed, when completed, in the offices of the Comptroller and of the State Engineer.

The laws require the Superintendent to make his report directly to the Legislature, who alone have the power to grant appropriations for the support of the work.

The appropriations are usually made annually in accordance with the general laws, the amount requisite being collected in the general tax levy; which is paid over to the State Treasurer and by him only issued to the parties authorized by law to receive the same on the warrant of the Comptroller, who is the financial officer of the State. All payments that are made from such appropriations must be accounted for by detailed bills of items with formal vouchers in writing duly signed by the payee and countersigned by the officer making the payment. All such accounts submitted by any officer must contain a specific statement as to the payments made, the nature of the duties performed, or of the material or supplies furnished, and that the same were requisite and necessary and were expended or used in the service. Such accounts are kept in duplicate or triplicate in accordance with the number of responsible officers through whose hands they pass, the originals being filed in the office of the Comptroller.

It has been already explained, that upon this particular survey when the appropriations of the State were insufficient the Superintendent — the writer, Verplanck Colvin, who has had charge of the work since its inception—has laid out his own means and has carried forward the work at his own expense. It is necessary to recall this fact in order to prevent the impression that the results of the work are derived entirely from State appropriations.

ADMINISTRATION.

The State Land Survey, as at present organized, consists of one Superintendent, selected by the Legislature. The Superintendent of the State Land Survey, like the other superintendents of State departments — the Superintendents of Public Instruction, of Public Works, of State Prisons, etc., has almost absolute control of the work. This system has been adopted after long experience of large commissions and boards whose slowness of action has been deemed by the Legislature to militate against the promptness in executive work required in these special departments.

The Superintendent of the Survey has sole power of appointment and removal of subordinates. His own salary was fixed by law during certain periods, but is now left subject to the decision of the Legislature. The salaries of all subordinates are annually fixed by the Superintendent and are paid by the Comptroller from the regular appropriation for the survey.

OFFICERS.

SUPERINTENDENT.

Salary fixed by the Legislature.

ASSISTANT IN CHARGE OF OFFICE.

Office continued from year to year. Salary in accordance with annual schedule as submitted to the State Civil Service Commission. Duties. General charge of office; oversight of office work; issuing of instruments and supplies to survey parties, and has charge of inspections when ordered by Superintendent.

CHIEF CLERK.

Usual functions. Has charge of general correspondence under instructions of Superintendent. Salary as above. (See Civil Service Commission Report.)

LEGAL CLERK.

Must be a member of the bar of the State; specially acquainted with laws relating to real estate, and familiar with the making of searches relative to titles. (Salary as above.)

COMPUTERS.

Must be familiar with the special classes of computation to which they are assigned. Have been employed by the mouth — except the chief computer — salaries ranging from $60 to $104 per month.

DRAFTSMEN.

As the topographers and their field assistants are best able to reproduce their field-work accurately in the form of maps the drafting has been usually assigned to the officers making the surveys. Most of these officers are superior draftsmen, although differing slightly in their styles of work. By having the map-work done by the field topographers great precision has been secured in the first drafts. The combining and unification of all of the topographical data of the survey by skilled technical copyists is now under consideration. This, it is expected, will afford a uniform series of maps of the entire district under survey.

DIVISION OFFICERS.

The area of work being so great, and the details required being actually enormous — it has been found necessary to divide the entire region into districts, usually consisting of one or more counties. Thus for the purposes of the Adirondack Survey, the region was divided into the following districts or departments, to each of which was assigned a resident engineer.

NORTH-EASTERN DIVISION.

Engineer's office at Plattsburgh, Clinton county, New York.

MIDDLE EASTERN DIVISION.

Engineer's office, Port Henry, Essex county, New York.

SOUTH-EASTERN DIVISION.

Engineer's office, Ticonderoga, Essex county, near line of Warren county.

NORTH-WESTERN DIVISION.

Engineer's office, Raymondville, St. Lawrence county, New York.

MIDDLE WESTERN DIVISION.

Engineer's office, Naumburgh, Lewis county, New York.

SOUTH-WESTERN DIVISION.

The work in this division was never permanently assigned; different officers having charge of the work at different times. The central division and the middle western and middle southern divisions have been similarly circumstanced, the special surveys in those divisions having been from time to time under the direction of the engineers in charge of the adjacent divisions. This was not the result of method, but arose from necessity, the appropriations being too small to maintain these last-mentioned divisions on a permanent basis.

SALARIES OF DIVISION OFFICERS.

The salaries of the assistants in charge of these divisions have hitherto been $104 per month, with the addition of traveling expenses (transportation and subsistence). In a few instances a commutation of subsistence was allowed, or limits were fixed within which the subsistence expenditures were required to be kept. Repairs of instruments were also made at the expense of the survey upon the principle that the accuracy of the work required the best instrumental means, the maintenance of the perfection of which might be endangered if the assistants were required to personally keep them in repair. A parsimonious man will sometimes work with an instrument in poor condition if it has to be repaired at his own expense, and the value of work thus done will be greatly lowered. By promptly ordering any instrument not in perfect repair back to the instrument-maker, and by keeping in reserve extra instruments for such contingencies, work has been greatly facilitated and accuracy secured.

The transportation, subsistence and repairs of instruments are uncertain quantities, and before being paid for are subject to rigid scrutiny, and are only settled after the sworn statement has passed the examination of the accountant at the central office, and after a final examination by the Superintendent. The accounts are then transmitted to the State Comptroller where they undergo a final examination before they are audited and ordered paid.

This system, as regards field expenses, transportation, subsistence, repairs of instruments and the like, applies to every division of the survey work, and to every officer or employee.

The entire system has been developed since 1872, by the Superintendent, and a series of blanks for reports of various kinds, for requisitions, for returns of property, financial statements, blanks for vouchers, etc., have been devised by him and are in use upon the survey.

SUB-REPORTS.

The division officers are required to report at the close of each week their progress, their expenditures, pay-roll, bills paid, bills due, supplies required, signals built (with diagram maps showing triangulation stations visible from) and any facts relative to the geology, mineralogy, botany or zoölogy which they may deem of interest or importance. These last features of their reports relate, of course, to those matters which are of the nature of discoveries or at least of hitherto unknown facts relating to the natural history of the country which have been noticed. They are not directed to make researches in natural history, but original papers written by savans or members of the survey staff, or by residents of the region whose information would otherwise be lost, are given a place in the reports in order to preserve the data.

SUBORDINATES.

The division officer engaged in work in accessible districts is allowed a force of seven assistants, which is increased if the difficulties and importance of the work require it.

His staff consists of one transitman, one topographer, two flagmen, two "chainmen" (with steel tape), one teamster,* cook and camp keeper. The transitman and topographer's duties are sometimes combined; the chief of party assisting at the transit.

In dense woods a number of axemen are required, and when the work reaches any distance from roads, a corps of packmen are employed, the forests on account of swamps, fallen timber and precipitous rocks being generally impassable for pack horses.

The salaries of the above employees range from ninety down to forty dollars per month and expenses.

---

* When working near roads; replaced by packmen, etc., when the work is in wilderness.

In engaging men they are informed that they are expected to assist upon the work in many ways; they are expected to carry knapsacks proportioned to their several strengths, they are to furnish and care for their own camp equipments, blankets, tins, knives, forks and the like, which are to remain their own property. These rules have sometimes to be modified or relaxed on account of the carelessness or negligence of subordinates, but the officer who issues blankets, clothing, etc., to any subordinate is held personally responsible.

WORK OF THE DIVISIONS.

The work of the divisions is the execution of the detailed cadastral surveys. As far as executed to the present time they may be subdivided into

First. Surveys of secondary or topographical base-lines.

Second. Surveys of boundary lines, *i. e.*, county lines, town or township lines, and the adjacent or included topography.

Third. Surveys of roads, etc., and their location in connection with the topography.

Fourth. Surveys of rivers and other waters, including meanders where the detail maps are of a sufficient scale to show the features of ground measured. When surveys are made of the larger lakes and rivers with much minuteness of detail in the map work, this is classed as hydrography.

Wherever practicable, in any division, these different classes of work are combined and carried on at the same time.

TOPOGRAPHY.

Along lines and in dense forests the topography is sketched to scale, in topographical field books of different dimensions.

In the open country, for large lakes and from mountain tops, the Plane Table is used, the field drafting being made on a large scale for convenience in sketching, and reduced for publication.

TRIANGULATION.

The many distinct and widely separated surveys in the several counties are connected and tied together by a precise system of triangulation based upon lines furnished by the United States Coast Survey, numerous bases of verification being afforded by the same surveys along the borders of the region. The western limit of the region is along Lake Ontario, where the base-lines and triangulation of the United States Army Engineer Survey of the great lakes is also available for verification, while the survey of the shore line of Lake Ontario and the river St. Lawrence afford a topographical base which can be accurately laid down upon any map scale and made the line of departure for work upon the western border.

The first base-lines used by the Adirondack Survey were those on Lake Champlain measured by the hydrographic parties of the Coast Survey. Subsequently those were replaced by the great geodetic lines of the Coast Survey primary triangulation, which were developed westward from the Atlantic seaboard to the heights fronting upon Lake Champlain, Lake George and the Hudson river near Glens Falls and Saratoga. This change of base-lines and connection with the primary lines of United States Coast Survey, renders necessary the recomputation of the trigonometrical and geodesic work and will take much time.

FIELD-WORK.

The field-work of the triangulation as been executed by the Superintendent personally or under his immediate direction, with the best instrumental means at command, the observations having been taken, whenever practicable, during the morning and evening hours which are most free from irregular refraction.

All angular observations are repeated first in the direct and then in the reverse position of the instrument, the observations being continued until the requisite degree of accuracy has been attained.

The horizontal measurements are made at a different hour from the vertical measurements; the trigonometrical leveling being confined to horizons of observation from selected stations. The system followed upon the Adirondack' Survey for trigonometrical leveling affords very precise results, and is hereafter explained in the description of the leveling operations.

INSTRUMENTS.

The theodolites used in the work of triangulation were constructed by Troughton and Simms; by William Würdemann and Fauth & Company of Washington, Stackpole and Brother of New York, by Oerthling of Berlin, and other makers. They were employed in the measurement of the horizontal angles. The greater portion of the measurements have been made with the Würdemann and Fauth instruments, which have given excellent results, the triangles at times closing almost exactly after the corrections for spherical excess have been applied. Whenever any considerable differences in the closure of triangles have been found they have been usually traceable to observations taken during periods of irregular refraction, in the heated portion of the day. Rejecting such observations the closures are exceedingly satisfactory.

In the detail surveys on transit lines and in the geodetic leveling, the instruments used were chiefly those of W. and L. E. Gurley of Troy, and Stackpole of New York, and were found to afford extremely satisfactory results.

SIGNALS.

The signals employed upon this survey are various in kind. Automatic and hand heliotropes, and other light reflecting signals have been used with success; two forms of these signals, devised by the Superintendent, having been of great utility. For night signals lamps of various styles have been used, one form devised by the Superintendent being believed to be the most effective signal lamp yet invented. All these devices are, however, very expensive as they require the constant presence of a signalman for long periods of time and at all the signal stations, in any horizon of observation, at the same time. The impracticability of the use of these methods at all stations of observation has made it necessary to limit their employment to stations not otherwise visible. At all other stations the pyramidical signal of timber with a high central mast has been employed.

In executing the triangulation more than one hundred and twenty signal stations have been used, leaving about an equal number of primary stations to be hereafter occupied to perfect the plan of the cadastral survey.

These signal stations rise from twenty-five to sixty or eighty feet above the ground or rock at the station, or sufficiently high to be seen above any fringe of forest or other intervening obstacle. They are heavily framed of very substantial timber and secured to the rock at their bases by heavy iron bolts let into drill-holes and tamped with lead. The center-pole is at the exact symmetric center of the signal, and its position is marked in the native rock or stone monument by a deep drill-hole in which is set a nickel-plated copper bolt bearing the number of the station, the title of the survey, and the year in which the work was done.

These signals are constructed by a signal corps under a head signalman. The salaries paid are in accordance with annual contracts for skilled labor.

TRIANGULATION.

Should the full plan of triangulation be carried out over all the counties mentioned in the Law of 1883, the final adjustment of the entire triangulation by least squares will involve the computation of nearly one thousand conditional equations. These may be separated into as many blocks of quadrilaterals and triangles as may be considered most convenient and consistent with precision. The amount of labor involved in these computations will be very great, and in view of the uncertanties surrounding the progress of the work it has been deemed best to make only preliminary computations, and to await the closure of field-work before the final adjustment shall be attempted. Another and equally potent reason for deferring this work of adjustment is the fact that the basis of survey — the lines of the United States Coast Survey transcontinental triangulation and Army Engineer work on the Great Lakes — has not been finally adjusted into one harmonious system; and although the differences in the linear values and astronomical coordinates of these two great national surveys is now known at one point — the data is not sufficient for the final adjustment of the State surveys dependent thereon.

The adjustment of a portion of the primary work of the Adirondack Survey by least squares is in progress, but may not be computed for some time.

This is a scientific question and should be deferred until the triangulation is completed. In the meantime trigonometrical computations sufficient for map purposes will be made, and the topographical drafting and the publications will proceed as fast as the requisite appropriations are afforded.

LEVELING.

The division of levels is only second in importance to the department of triangulation — affording as precise a measurement of heights as the triangulation does of distances.

The levels of the Adirondack Survey are made with engineer's levels of the best construction, upon standard graduated rods divided in duplicate English and French measures. The rod is held in a tripod, with leveling head, and is made precisely vertical and clamped. The duplicate readings are recorded and then converted by computation and compared. If they agree, the first readings are retained, otherwise repetitions are made until agreement is reached. By this system every sighting of the level and setting of the target affords two rod readings by different verniers upon independent scales.

The Adirondack Survey levels are connected with the mean tide level datum at Governor's Island in New York harbor by two lines of levels, one run by the Coast Survey, the other by the Army Engineers to the commencement of the Erie canal at Albany. From this point northward the Adirondack Survey levels extend by various routes as far north as Canada, and as far west as the Black river near Lowville.

Seventy-four separate sections or lines of levels have been run with precision, along the various valleys, through mountain passes or between lakes, establishing their heights and determining their availability for reservoir purposes or the routes by which water can be conducted to them or from them.

NECESSITY FOR PRECISE LEVELING.

If the surface of the earth were everywhere smooth, without any elevation or depression, it might be considered as a perfect spheroid. If such were the precise figure of the earth, it would have no topography, for there would be no mountains, seas, hills, lakes, rivers or drainage.

Difference of level, therefore, is the sole cause of the existence of topography; in other words the heights and depths constitute the topography, and a topographical survey must therefore include the primary elements of height and depth that form what is called the relief or, more popularly the "natural features" of the region.

These primary elements are the highest and the lowest points. The summits of the mountains, passes and divides form the maximum; the deep depressions of the lakes, the long gradients of the river valleys forms the minimum. Between these limits are located all of the characteristics of the ground of which a knowledge is important.

The triangulation and plane-table work, it is true, give the location and form of these natural features, but the leveling, or height measurement alone determines whether they rise in mountain walls as insuperable impediments to progress, or are spread out into broad plains, easy of access. No topographical sketch, however nicely drawn, will indicate to any eye whether the country is passable or impassable unless some height measurements have been made the basis of the drawing.

To afford elevated datums for the trigonometrical leveling, and for the determination of the local co-efficients of refraction, many of the principal Adirondack mountain peaks were directly measured by leveling from tide, one of them * being the focus of three lines of levels. Among these important summits are

Some of the more important of these horizon stations are given in the following table:

---

* Mt. Marcy or Tahawus.

TABLE

Giving heights of important Horizon-stations,

DETERMINED WITH LEVEL AND ROD.

(Reference points in the trigonometrical leveling and contouring.)

NAME.	County.	Town.	Height above tide in feet.
Mt. Algonquin (summit of McIntyre range)	Essex county	North Elba	5, 112
Black Mountain (of the Horicon range)	Washington county	Dresden	2, 661
Crain's Mountain (Johnsburgh group)	Warren county	Johnsburgh	3, 254
Gray Peak (Marcy group)	Essex county	Keene	4, 902
Mt. Haystack (of the Gothic range)	Essex county	Keene	4, 918
St. Regis Mountain (St. Regis group)	Franklin county	Brandon	2, 888
Mt. Skylight (of the Marcy group)	Essex county	Keene	4, 889
Mt. Tahawus (summit of Marcy group)	Essex county	Keene	5, 344
Mt. Whiteface (summit of the Whiteface group)	Essex county	Wilmington	4, 471

These are, however, but incidents in the work of height measurement, for the total number of instrument and rod stations made in executing the *seventy-four lines of levels* mentioned, is fourteen thousand one hundred and eighty-six.

The lines are preserved by more than a thousand bench-marks and permanent stations cut into the rock. The bench-marks of this survey are usually cut upon the native rock or upon great boulders, and are indicated by smooth knobs surrounded by a circular groove cut deeply into the stone. The recorded height refers to the top of the embossed knob, and is found by noting the number of the bench-mark (which is also marked by deeply-cut figures in the rock), when, by reference to the reports of the survey, the recorded height above mean tide level of the bench-mark in question will be found.

From these bench-marks, side lines can be started with precision in any direction and heights above tide determined by vertical limb of transit or plane table alidade in the topographical work. These bench-marks are, in fact, indispensable in the preparation of the topographical maps, as upon them depend all the heights — the mountains and mountain ranges and contours.

TRIGONOMETRICAL LEVELING.

The preceding description of the direct methods of geodesic leveling have already given an idea of the methods pursued on this survey for the determination of heights. From the mountains which have been carefully measured by direct leveling the trigonometrical leveling extends by a system of zenith distances in which maximum and minimum zenith distance stations having been selected and their true zenith distances determined by many observations a series of differences read with bifilar micrometer and delicate level afford all of the other heights within the horizon.

This special method of trigonometrical leveling is capable of great precision in its results. Inasmuch as most of the mountain tops are forest covered, the wooded ridges are merely referred to with sufficient care to insure accuracy in the contouring and heights, and the reciprocal zenith distances are limited, necessarily, to the signal stations occupied.

By the process just indicated zenith distances can be observed, during favorable weather, with wonderful precision. It is, in fact, an extension of the application of the zenith telescope principle to terrestrial work. While the application of the micrometer eye-piece to this purpose is not novel, yet the method devised by the writer, whereby all of the micrometer readings are thrown between maximum and minimum limits of nearly absolute zenith distance, is believed to be new, and this last-mentioned improvement certainly serves to give the geometrical limits so desirable in forming the conditional equations in the final adjustment of the work by least squares.

Besides this primary trigonometrical leveling, secondary and tertiary observations for the inferior heights are taken with light portable instruments by the common direct measurement of vertical angles.

The formulæ used in computation are the same as those employed upon all other similar surveys.

In the primary vertical work and in the secondary work, where the distances render it necessary, due attention is paid to the barometric pressure and temperature of the air at the time of observation, especially where reciprocal zenith distances are not observed.

Little of this work has, as yet, been published. The reductions are in progress.

PLANE-TABLE TOPOGRAPHY.

The plane-table work of the Adirondack Survey has been by necessity, owing to the denseness of the forest, confined to two classes of ground, viz.: (1st), The region commanded by the open mountain summits, and (2d), The partially settled and cleared lands along the river valleys.

Connected plane-table surveys have been made of the eastern-central mountain groups, and detached plane-table sketches of lake, and other sections where the topography could be worked in by this process.

A system of plane-table sheets for the whole region has been perfected, but the completion of the plane-table work involves the erection of a great number of high tripods and towers upon nearly every commanding summit throughout the entire extent of the forest-covered region, and for this no means has yet been afforded.

The topography of the survey of the upper Hudson is to a great extent plane-table work and has resulted in the production of a number of beautiful manuscript maps. In other districts the forest has so shut in the topographers that they have preferred to work with light transits from station to station, platting angles and sketching topography wherever the openings in the forest permitted. This latter method is merely a modification of the plane-table process suited to the conditions governing the present work. The topographical work by this modified process is probably superior to the small scale plane-table work; is more of an engineering work, and affords a more detailed record of the physical features than the ordinary plane-table process. The field-book record of distances measured and angles observed makes the groundwork of the maps of this system independent of the purely graphical work, which can under this system be reproduced on any scale by any of the various mechanical devices now in use for such purposes.

It is proposed during the coming season to reduce from the plane-table sheets and the topographical notes of the modified system a map of the region as far as surveyed. This map is intended to be a wall-map or a scale of 1:126,720th or one-half an inch to the mile, which will make a map sheet of 84 by 84 inches. This scale is the largest, for a wall-map, that is consistent with the area indicated. The scale adopted permits the surrounding settlements and the approaches to the region to be shown, together with the location of the base-lines and the inclosing systems of triangulation of the United States Coast and Geodetic Survey and of the Great Lake Survey of the Army Engineers which form the geometric limits of the State Land Survey.

An atlas of the entire region upon a larger scale is also in preparation.

CABINET.

The survey maintains a cabinet, in which are placed the blocks cut from the line and corner trees in the search for the boundaries of the ancient land patents. Those blocks only are preserved which have been identified as from boundary trees at definite points upon the lines which are being restored. Upon each block is placed a memorandum from the records of this office, specifying the date of the original marking, the name of the patent, the date on which the block was cut, and other facts relating to the survey and restoration of the line. These are termed the "proof blocks" of the boundary line surveys, the identification of the boundaries sought being greatly aided by a study of the number of annual rings of woody growth which have accumulated since the first marking of the tree. An incision is made into the wood "across the grain," not, however, exactly at right angles with the vertical in which the tree grew, but in an oblique plane. By this means the section of the tree made shows each layer of the fibre on an enlarged or diagonal scale, convenient for counting the annual annulars which is done with the aid of a microscope in order to insure the counting of the occasional tissue-like rings (or layers) which mark the years of feeble growth.

The blocks have been taken from the following species of trees, which are mentioned in the order of their relative goodness in the preservation of survey marks, viz.:

White pine	*Pinus strobus*
Norway pine	*Pinus resinosa*
Black spruce	*Abies nigra*
Hemlock	*Abies canadensis*
Tamarack	*Larix Americana*
Yellow birch	*Betula excelsa*
Maple	*Acer saccharinum, Acer rubrum, etc.*[*]
Elms	*Ulmus Americana*
Cedar	(*Arbor Vitæ*) *Thuja occidentalis*
Balsam	*Abies balsamea*
Beech	*Fagus sylvetica*
White birch	*Betula populifolia*

The iron-wood (*Ostrya*), and blue beech (*carpinus ?*) have not been so generally marked as to admit of an opinion as to their permanence. Indeed the scale above given is variable. The white cedar and the balsam would stand high in the list, but for the frequency with which they are found with dead and decayed cores, in which the line-marks are lost. This last remark applies particularly to trees of these species in lowlands and swamps. The beech seems to live to a good age if the bark be not disturbed; the old line-mark — three blazes on each side — is, however, very trying to this tree, although some thrifty specimens manage to perfectly heal the wounds in from thirty to sixty years so as to show hardly a trace in the bark, except a grayish mildewed-like space upon its surface barely discernible, and only intelligible to a thorough expert.

The collection of proof-blocks is contained in glass cases along the walls of the spacious map-room of the Survey in the Capitol. It forms a rare, if not a unique study in economic botany, and is probably the only collection from such marked trees, whose history and dates of marking are unquestionable. It affords the data for the study of the interesting question which has arisen as to the reality of the systematic growth of trees in our forests, and answers the question in the affirmative.

These proof-blocks are thus preserved as part of the records and evidence by which the new stone monuments and nickel-plated copper bolts have been set by this Survey to permanently preserve the lines and corners.

---

[*] The *A. pennsylvanicum* is sometimes met with but is rarely found bearing old marks.

LIBRARY.

Only a small library of technical works of reference is maintained. Exchanges received for the State Library are transmitted thereto; exchanges made by authors (who may be attached to the Survey) of their private publications are not subject to official direction.

The extra bound volumes of reports of the Survey are printed only by order of the Legislature, a joint resolution of the Senate and Assembly being requisite. The editions published being thus dependent upon legislative action in each year range from 500 to 10,000 copies in accordance with the amount of popular interest in the work. The distribution to citizens is chiefly through the members of the Legislature, a moderate edition being given the Superintendent for his own use.

COST OF THE SURVEY.

The appropriations made by the State for the Adirondack Survey between 1872 and 1883 was $71,775, and for State Land Survey since the last date mentioned $15,000.* This, of course, does not include all the personal expenses of the Superintendent or his own personal investments in the Survey, or his unpaid salary, all of which, as heretofore explained, amounts to a large additional sum.

The printing, lithographing and engraving is done by the State Printer, under his regular legislative contract. This contract has been in recent times let to one bidder, estimating in gross for the entire amount of State printing. The cost of the printing of the reports and maps, etc., cannot, therefore, be estimated separately, the contractor being allowed to make no extra charge if the total amount of State printing be even greater than he had estimated.

PUBLICATIONS.

The publications of the Survey which have been issued are as follows:

First Annual Report, Albany, 1872, 1 vol. 8vo., 43 pages, one plate and two maps.

Second Annual Report, Albany, 1873, 1 vol. 8vo., 306 pages, 15 plates and five maps.

Third to Seventh Report, including condensed reports for the years 1874, 1875, 1876, 1877 and 1878. 1 vol. 8vo., 536 pages, 32 engraved plates and seven maps.

---

* Report of Comptroller Chapin, Senate Document 185, of 1884.

Eighth to Twelfth Report (not as yet published), a considerable volume containing much valuable data.

Report on State Land Survey, for the year 1883. Albany, 1884, 1 vol. 8vo., of 343 pages; 13 photo engravings, with large folding lithograph plates and maps of the surveys made.

In addition to these works are numerous pamphlets on scientific subjects connected with the region under survey, which have been prepared and published at the private expense of the Superintendent.

The Iron Deposits of North-Eastern New York, by George Chahoon, of AuSable, N. Y; 1 pamphlet, 16 pages, 8vo.

Plants of the Summit of Mt. Marcy, by Prof. Charles H. Peck; 1 pamphlet, 12 pages, 8vo.

Lepidoptera of the Adirondack Region, from collections by W. W. Hill, Esq., by Prof. J. A. Lintner, 1 pamphlet, 26 pages, 8vo.

Winter Fauna of Mt. Marcy, by Verplanck Colvin, 1 pamphlet, 8vo., 12 pages.

Memoranda Relative to Adirondack Fishes, by Fred. Mather, Assistant to United States Fish Commission, 1 pamphlet, 56 pages, 8vo., and plate figuring new species.

Besides these there are pamphlet reports which are republished in the bound volumes to be hereafter issued.

None of these publications are placed on sale.

BENEFITS OF THE SURVEY.

The absolute necessity for these surveys is sufficiently understood by all land-owners and State officers who are brought into contact with the wild lands in the northern district of New York. Until these surveys began to be made under the present management and methods, the interior of the Adirondack region was a *terra incognita*, geographically as unknown as portions of Africa.

The publications of this Survey, which were begun in 1872, were intentionally made descriptive of the country explored, and are admitted to have had a powerful influence in developing all the resources of that portion of the State. It is admitted that millions of dollars have been brought into this part of the State through the instrumentality of these publications.

The measurements, the monuments locating boundaries, the stone bench-marks or height monuments, and the manuscript topographical maps are of incalculable value. These records and results of the

Survey are to be prepared for printing in condensed form, and it is hoped that the publication will be effected in such a manner as will render them accessible to all requiring them.

The recovery of disputed lands, the prevention of trespasses upon the valuable timbered territory of the State, the settling of boundaries in a manner to prevent endless legal disputes are among the practical results of these surveys, and have already more than repaid the cost of the work which has been done.

SCIENTIFIC RESULTS.

The scientific results are chiefly in the direction of geographical discovery.

The first discovery, location, and height measurement of Lake Tear-of-the-Clouds, the highest lake source of the Hudson, and the tracing cut to their sources of the unexplored Adirondack rivers are among these results.

The location of most of the rivers by precise topographical surveys for the first time, renders the mapping of those streams possible.

Upon the accurately determined water-sheds, thus found, the rainfall observations of the Survey which have been continued for years, afford accurate data for canal reservoir estimates and for other hydraulic investigations.

The thousands of geographical positions determined render the platting of lakes, mountains and land-lines possible.

The determination of the altitudes by precise leveling operations forms the groundwork of the contour mapping of the country, and determines the relative levels of lakes and reservoirs, and the gradients of mountain-passes which, with the topography, will show the engineering possibilities of the country.

The improvements in instruments, in new forms and methods in the higher classes, and, in the new forms of helio-signals, — improved rain and snow-gauges and other meteorological and scientific instruments, would require more space for description than the scope of the present paper will admit, and they have moreover been sufficiently explained in the previous reports of the Survey.

About one-half of the region has now been covered by the trigonometrical measurements, and the topographical sketching is well advanced. Upon the completion of the field-work, computations and drafting, it is anticipated 'that all the results will be published in permanent form.

MAP ENGRAVING.

The element most essential to the utilization of the results of the Survey is the perfection of the processes of engraving and printing of the maps which represent the results of the work.

By photo-lithographing fair results may be obtained, but to secure these results a special style of drafting must be followed, which is usually characterized by heavy lines foreign to the best engraved maps.

What is most necessary in the engraved maps is that they shall show the lines, boundaries, and distances, the streams, contours, and general topography at the exact distances, and exact positions recorded by the measurements of the Survey, shown upon the original maps.

Such engraving is a scientific work, and requires as much care and attention as the original drafting, and is a more toilsome and difficult work.

The usual process, followed by contractors in this State, is to engrave such maps as form a portion of the public printing upon stone, and to transfer impressions and print by lithographic processes.

The hurry with which all such public printing is carried on, and the limitations of the contract system, prevent the production of the best and most exact engraving under the existing system.

Special reports containing scientific data should be made the subject of special contracts, which should provide for the precise engraving of maps, etc., whether upon copper or otherwise, under the supervision of the engineers and surveyors who did the work.

The engraving should be done in the offices of the Survey, under the same methods of supervision, comparison and inspection which were followed in the original drafting.

The proof-reading of maps is extremely difficult, and the correction of an error in the engraving often well nigh impossible; and entirely so, if the error in engraving consist of an incorrect reproduction of the distances shown upon the original map.

Small defects upon copper-plate engravings can be remedied, but the best remedy consists in the avoidance of error by the allowance of means sufficient to secure the best engravers, by affording ample time to the engraver to insure care and precision, and by the execution of the work of map engraving in the offices of the Survey, under the constant inspection of the scientific experts of the office.

APPENDIX C.

MAPS READY FOR PUBLICATION.

As an example of the important nature of the data on hand in this office and ready for publication, the annexed map showing the location of the south-east corner of the county of Franklin is given.

The true location of this important county corner has been in doubt for very many years. It is usually located about two miles to the eastward of the Preston ponds and beyond the sources of Cold river, which is an affluent of the Raquette.

The corner was traced out and reference monuments preserving its location placed by survey parties, by and under the direction of the Superintendent of the Adirondack and State Land Surveys. The documentary evidence that shows where the original compass lines were run, consisting of original manuscript records, were found in the possession of the heirs and assigns of the patentees of the great MaComb's purchase. With the aid of this data, the old boundaries were identified at points in the settlements, far distant from the corner, and where tradition, old fence-lines locating the limits of property, granted under ancient deeds, proved that these exterior points on the lines were so established as to be unquestionable. From these points four transit and traverse lines were run back into the wilderness, connecting with the ancient boundaries that from time to time were found and restored, until the four new survey lines, separating and identifying the old lines of marked trees met at the corners of the Great Tracts, and at length proved where the original south-east corner of MaComb's purchase really is. The south-east corner of the county of Franklin was also consequently determined and the location of the north boundary of Totten and Crossfield's purchase at this point as well as the south-west corner of the Old Military Tract.

The location of the south line of the Old Military Tract is dependent upon old marked trees traced out and discovered by the Superintendent personally, and located by a transit line run from the shore of Lake Champlain at Westport across the mountains — the Giant of the Valley, the Wolf-Jaws, the John's Brook range. Mt. Coldon, Little Mt. McMartin, Mt. McIntyre range, the Indian pass and Mt. Henderson to the corner in the upper Preston pond.

The location of the boundary line between the counties of Essex and Franklin from the Saranac lakes southward (being also the boundary between the MaComb's purchase of four millions of acres and the Old Military Tract Townships) was made by a transit line run under my direction by assistant M. Blake, who traced the ancient line of marked trees southward — with careful measurements, all angles and deflections being carefully determined with the transit; and, crossing all the mountain ridges between Mt. Seward and the Wallface mountain range found the county line to corner in the Preston ponds in complete conformity with the lines run by the other survey parties, in the place shown upon the map annexed.

The location of the north boundary of Totten and Crossfield's purchase west of this point was made by a survey party under assistant S. H. Snell, a transit traverse being run along the line of anciently marked trees by his transitman Mr. Rush, from the Raquette river eastward, up the valley of Cold river and over the shoulders of the mountains, the work resulting in this party also meeting at the same corner as that reached by the transit line run from Westport westward by the Superintendent.

Now came a most important and unexpected discovery. The surveyors measuring southward from the Saranac lakes found certain old township corners marked on the trees in the forests northward of the Preston ponds. Having the field-notes of the anciently measured distances along the bounds of these townships with them, they were interested in finding that the anciently recorded distances to the south-east corner of the township terminated in a lake. When their measurements had reached the same distance southward they arrived at the Middle Preston pond, and subsequent search, at right angles to the line westward, revealed an ancient line never before known to official records, but which was soon identified, by the marks upon the trees, to be the south boundary line of MaComb's purchase as marked by compass surveyors at the beginning of the present century*. Extending the west line of the Old Military Tract, still further southward, it was found to intersect with the north line of Totten and Crossfield's purchase in the Upper

---

*The boundaries of the townships were marked upon the trees with the aid of the magnetic compass by order of the proprietors. The work was done under the direction of W. B. Wright, and a photo-lithograph of the map, transmitted by him to the proprietors in 1799, indicating the boundaries of township No. 27, shows at the south-east corner the unmistakable form of the Preston ponds with their outlet (known as Cold river). The locations of the adjacent mountains, also, to which we have measured, prove conclusively that the corners, as found and restored by the Adirondack Survey, and shown upon the large map annexed, are the true and only possible corners of these great patents. The photographic reproduction of Wright's map accompanies this report.

Preston pond, the corner being midway in the north part of the lake, as shown on the large map hereto annexed.

A comparison with other recent maps of this portion of the State will show the important nature of this discovery and emphasize the necessity for the publication of the rest of these maps and of all of the results of the surveys that have already been made

---

APPENDIX D.

MONUMENTS.

A great number of stone monuments have been set at important corners and along lines which have been searched out and restored with the greatest difficulty, after years of study among the old records and laborious measurements in the field.

The sudden cutting off of the means provided by the Legislature for the survey by the veto of the appropriation bill by the Governor has prevented the placing of the record tablets and the inscriptions relative to the Survey data upon a great number of these monuments.

It is indispensably necessary that means should be provided for the placing of the record tablets in the places cut for them in the stone of each of the monuments. For the sake of economy, in consequence of the smallness of the appropriations preventing the employment of skilled stonecutters to carve upon stone the necessary inscriptions describing the lines and corners monumented, a form of nickel-plated copper bolt was devised by the Superintendent to bear the necessary inscription.

These bolts are practically indestructible. The heads of the bolts are flattened out in the forms of tablets, and upon these tablets are inscribed the necessary record and description of the corner. The nickel-plating of those which have been exposed to the storms and weather for over five years is as bright as when first placed.

The cutting upon stone of these inscriptions was found to be very expensive. The pay and transportation of the skilled stonecutters in the wilderness being more than could be afforded with the appropriations given. The cost of lettering in stone one monument, intelligibly, would in some cases amount to twenty five dollars, while the bright nickel-plated copper bolt can be procured at from two and a half to three dollars each.

This completion of the monumenting or marking of the monuments is absolutely necessary and will not be expensive. It is urgently hoped that the means will be provided for the work.

APPENDIX E.

TABLE OF ALTITUDES

IN THE

ADIRONDACK REGION.

The following table of altitudes has been prepared from the field measurements of the Adirondack Survey, and is inserted for the use of those who desire the data for investigations in connection with hydrology and forestry, and for the general improvement and development of the region. The list only includes well-known stations familiar to land-owners, travelers and tourists of the region. The great mass of measurements, with descriptions of the locations of the bench-marks or monuments with profiles, maps and other details of interest and importance, will be given in the records of the survey now in preparation for publication, one volume of which is proposed to be devoted to the results of leveling and the discussion of the observations by which the elevations have been obtained.

In the present tables, many elevations heretofore only based upon barometric observations, are now given from measurements made with level and rod from tide.

TABLE OF ALTITUDES IN THE ADIRONDACK REGION.

EXPLANATION.—*The method by which the Altitudes have been determined is explained by the letters of reference annexed:*

By Level and Rod L;	By Trigonometrical Leveling A or Δ;
By Mountain Barometer B;	By Detached Levels D.

NAME OF STATION.	County.	Method.	Altitude above the sea.	
Abraham (Plains of)	Essex	L	1 621	feet.
Adirondack Village	Essex	L	1 789	"
Aiden Lair (Upper hotel)	Essex	L	1 628	"
Albany Lake	Hamilton	L	1 704	"
Alvord Lake	Hamilton	D	2 361	"
Ampersand Mountain	Franklin	B	3 432	"
Ampersand Pond	Franklin	B	2 078	"
Andrew Mountain	Essex	B	3 216	"
Artist's Falls (Gill brook)	Essex	L	1 637	"
Ausable Forks	Essex	D	550	"
Ausable Lake (lower)	Essex	L	1 959	"
Ausable Lake (upper)	Essex	L	1 993	"
Ausable River (East branch crossing near Beede's)	Essex	L	1 089	"
Ausable River (East branch at Shaw's bridge)	Essex	L	972	"
Ausable River (East branch at bridge at Keene village)	Essex	L	818	"
Ausable River (West branch at North Elba bridge)	Essex	L	1 676	"
Avalanche Lake	Essex	L	2 863	"

TABLE OF ALTITUDES IN THE ADIRONDACK REGION — (*Continued*).

NAME OF STATION.	County.	Method.	Altitude above the sea.
Baldface Mountain (No. 1)	Hamilton	B	3 903 feet.
Bald Mountain (Crown Point)	Essex	B	2 302 "
Bald Peak (Moriah)	Essex	B	2 120 "
Balm of Gilead (South Mountain)	Warren	B	1 953 "
Ballston Spa (R. R. tracks)	Saratoga	D	277 "
Barnum Pond (Gilman)	Hamilton	D	1 706 "
Bartlett's (Saranac Lakes)	Franklin	L	1 543 "
Bartlett Mountain (west shoulder on Gorge trail)	Essex	L	2 785 "
Bartlett Mountain	Essex	B	3 715 "
Basin Mountain	Essex	B	4 905 "
Beaches Bridge	Lewis	L	755 "
Beaches or Brandreth's Lake	Hamilton	L	1 890 "
Beaver Lake (No. 4)	Lewis	L	1 435 "
Beaver Meadow Pond (Chair-rock, Oswegatchie)	St. Lawrence	B	2 193 "
Beaver Meadows (Spruce Lake)	Hamilton	D	2 220 "
Beede (Old House), head of Keene valley	Essex	L	1 300 "
Beede (New House) " " "	Essex	L	1 360 "
Belden Pond	Hamilton	L	1 563 "
Bennett's Pond or Mirror Lake	Essex	L	1 859 "
Big Moose Lake	Herkimer & Ham.	B	1 787 "
Big Tupper's Lake	St.Lawrence&F'k'n	L	1 552 "
Black River (Lock 109)	Lewis	L	738 "
Black Creek (Watson road crossing)	Lewis	L	1 327 "
Black Pond (St. Regis)	Franklin	L	1 628 "

Blue Mountain	Hamilton	B	3 762	feet.
Blue Mountain Lake	Hamilton	L	1 800	"
Bog River (junction with Tupper Lake stream)	St. Lawrence	L	1 578	"
Bog River Falls (head)	St. Lawrence	L	1 575	"
Bog River Falls (foot)	St. Lawrence	L	1 552	"
Bog Lake	Hamilton	B	1 755	"
Booneville	Oneida	D	1 124	"
Boot Bay Mountain	Franklin	Δ	2 531	"
Boot Bay Mountain (North Peak)	Franklin	Δ	2 400	"
Boquet Mountain	Essex	Approx.	1 500	"
Boquet River (Upland valley)	Essex	B	2 425	"
Boquet River (E'town)	Essex	L	543	"
Boquet River (Jackson fork bridge, 1 mile from E'town)	Essex	L	759	"
Boreas Mountain	Essex	D	3 726	"
Boreas Pass	Essex	L	2 019	"
Boreas Pond	Essex	L	1 973	"
Brewster (Triangulation station)	Essex	L	1 981	"
Brown Place (John Brown's Grave)	Essex	L	1 857	"
Bullwagga Mountain	Essex	D	1 260	"
Burnt Mountain (No. 1)	Hamilton	B	2 121	"
Cadyville (point near)	Clinton	D	734	"
Calamity Pond	Essex	L	2 679	"
Camel's Hump Mt.	Essex	B	3 548	"
Camp Pork	Essex	L	2 288	"
Camus Pond	Essex	B	1 991	"
Canada Lake (Little West)	Hamilton	D	2 323	"
Canada Lake (Great West)	Hamilton	D	2 348	"
Caraboo Pass	Essex	B	3 662	"
Carthage	Jefferson	D	728	"
Catamount (or Thi-Pac Mountain)	Clinton	Δ	3 128	"

TABLE OF ALTITUDES IN THE ADIRONDACK REGION — (*Continued*).

NAME OF STATION.	County.	Method.	Altitude above the Sea.
Catlin Lake	Hamilton	L	1 600 feet.
Cat Mountain (Oswegatchie)	St. Lawrence	Approx.	2 336 "
Cedar Lakes	Hamilton	B	2 529 "
Cedar River Falls	Hamilton	B	2 135 "
Cedar River Settlement	Hamilton	B	1 706 "
Cedar River (Mouth)	Essex	D	1 454 "
Chagrin Pond	Franklin	D	1 640 "
Chain Lake (Outlet)	Hamilton	D	1 531 "
Chain Ponds (Bog River)	St. Lawrence	B	1 736 "
Champlain, Lake (mean level for 11 years, 1871 to 1882)		L	96.561 "
Chapel Pond	Essex	L	1 602 "
Charley Pond (Beaver River)	Hamilton	L	1 777 "
Chazy Lake (station of 1878)	Clinton	A	1 500 "
Chubb River (Saranac road crossing)	Essex	L	1 728 "
Chubb River (at White's saw mill, North Elba)	Essex	L	1 714 "
Church Pond (St. Regis)	Franklin	L	1 655 "
Clear Lake (Red Horse Chain)	Herkimer	B	2 005 "
Clear Pond (North Elba)	Essex	L	2 166 "
Clear Pond (Long Lake)	Hamilton	B	1 691 "
Clear Pond, Big (Upper Saranac waters)	Franklin	L	1 615 "
Clear Pond (near Elk Lake)	Essex	L	1 911 "
Cliff Mountain Pass	Essex	B	3 355 "
Cobble Hill	Essex	B	1 936 "
Colby Pond	Franklin	L	1 559 "
Colden Lake	Essex	L	2 764 "

Colden (Mount Colden)	Essex	B	4 753	feet.
Colvin Lake	St. Lawrence	B	1 990	"
Colvin (Mount Colvin)	Essex	B	4 142	"
Corey's (Indian carry) plateau	Franklin	L	1 618	"
Corey Pond	Franklin	L	1 589	"
Cow Horn Pond	St. Lawrence	B	1 772	"
Crains Mountain	Warren	L	3 254	"
Cranberry Lake (Great)	St. Lawrence	B	1 540	"
Crooked Lake	Herkimer	B	2 022	"
Crystal Creek (crossing of road to No. 4)	Lewis	L	939	"
Crystal Lake (Oswegatchie)	St. Lawrence	B	1 663	"
Crystal Lake	Lewis	L	1 259	"
De Bar Mountain	Franklin	A	3 011	"
Deer Pond (Beach's Lake)	Hamilton	L	1 993	"
Devil's Ear Mountain	Hamilton	B	3 903	"
Dibble's (Keene Valley)	Essex	L	1 033	"
Discovery Mountain	Essex	B	1 582	"
Discovery (Little Mount)	Essex	B	1 375	"
Dix (Mount)	Essex	B	4 916	"
Dyke Falls (crossing)	Essex	B	2 788	"
Eagle Lake (Blue Mountain chain)	Hamilton	L	1 800	"
East Moriah	Essex	D	790	"
East Intersection of Keene Mountain and Edmunds Ponds roads	Essex	L	981	"
Echo Lake	Hamilton	D	1 714	"
Edmunds Pond (Upper)	Essex	L	2 038	"
Edmunds Pond (Lower)	Essex	L	2 032	"
Eighth Lake (Fulton chain)	Hamilton	D	1 803	"

TABLE OF ALTITUDES IN THE ADIRONDACK REGION — (*Continued*).

NAME OF STATION.	County.	Method.	Altitude above the Sea.
Elba (North Elba)	Essex	L	1 685 feet.
Elizabethtown (Lower flats)	Essex	L	552 "
Elizabethtown (Upper plateau)	Essex	L	598 "
Elizabethtown (1st bridge over Jackson, fork of Boquet river)	Essex	L	759 "
Elizabethtown (Red School house, 2 miles west from E'town)	Essex	L	965 "
Elk Lake	Essex	L	1 986 "
Elk Lake Pass (Railroad notch to Ausable)	Essex	L	2 650 "
Evergreen Pond	Hamilton	B	1 980 "
Fairy Ladders Falls (foot of)	Essex	B	3 111 "
Falls (Artist's Falls)	Essex	L	1 637 "
Falls, Bog River (Head)	St. Lawrence	L	1 575 "
Falls, Bog River (Foot)	St. Lawrence	L	1 552 "
Falls, Tupper's Lake Stream (Head)	Hamilton	L	1 604 "
Falls, Tupper's Lake Stream (Foot)	Hamilton	L	1 594 "
Falls between Round Pond and Lower Saranac (Head of)	Franklin	L	1 541 "
Falls between Round Pond and Lower Saranac (Foot of)	Franklin	L	1 539 "
Falls, Glen's (Feeder Dam) top of coping	Warren	L	290.252 "
Fenton's No. 4 (Beaver River)	Lewis	L	1 571 "
Fifth Lake (Fulton chain)	Hamilton	D	1 691 "
First Lake (Fulton chain)	Herkimer	D	1 684 "
Fishing Brook	Hamilton	L	1 569 "
Flatts, Juniper	Essex	L	698 "
Flatts, Keene (B. M. 52.)	Essex	L	1 033 "

Forge (Old Forge Moose river)	Herkimer	D	1 684	feet.
Forked Lake	Hamilton	L	1 753	"
Forks (Ausable River)	Essex	D	550	"
Forks Sacondaga River (Wellstown)	Hamilton	D	902	"
Fourth Lake (Fulton chain)	Ham. & Herkimer,	D	1 687	"
Fourth Pond (Bog River)	St. Lawrence	B	1 756	"
Francis Lake (Beaver River)	Lewis	L	1 457	"
Freeman's Home (School House)	Essex	L	2 086	"
Gennet's (Peaseleville)	Clinton	B	1 821	"
George (Lake George)	Warren, etc	L	319	"
Giant of the Valley Mountain	Essex	B	4 530	"
Giants Basin or Wash Bowl Pond	Essex	B	2 253	"
Gill Brook (crossing at road to Ponds)	Essex	L	1 465	"
Gill Brook flume	Essex	L	1 561	"
Glens Falls (Feeder Dam) top of coping	Warren	L	290·252	"
Gore Mountain	Warren	B	3 539	"
Gorge (Panther Gorge)	Essex	L	3 353	"
Gothic Mountain	Essex	B	4 744	"
Grass Pond	St. Lawrence	B	1 750	"
Grass River (Ford)	St. Lawrence	B	1 452	"
Graves Mountain	St. Lawrence	B	2 845	"
Graves Pond	St. Lawrence	B	1 795	"
Gray Peak	Essex	L	4 902	"
Great Plains	St. Lawrence	B	1 637	"
Gull Lake	Herkimer	B	2 018	"
Gull Pond (Little)	Herkimer	B	1 907	"
Hadley (R. R. track at)	Saratoga	L	636	"
Harrington Pond	Hamilton	B	1 779	"
Harrietstown	Franklin	L	1 541	"

TABLE OF ALTITUDES IN THE ADIRONDACK REGION — (*Continued.*)

NAME OF STATION.	County.	Method.	Altitude above the sea.	
Harris Lake	Essex	L	1 556	feet.
Haystack Mountain	Essex	L	4 918	"
Haystack Mountain (Little)	Essex	B	4 766	"
Henderson Lake	Essex	L	1 814	"
Herrick's Creek	Essex	L	1 284	"
Hitchings Pond	St. Lawrence	B	1 733	"
Hoffman (Mount Hoffman)	Essex	D	3 727	"
Holmes Hill	Hamilton	B	2 121	"
Hope Centre	Hamilton	D	763	"
Hopkins Peak	Essex	B	3 136	"
Horse-shoe Pond	St. Lawrence	B	1 712	"
Hudson River (bridge Tahawus) station near	Essex	L	1 717	"
Hump (Mt. Marcy)	Essex	L	4 998	"
Hunter's Pass	Essex	B	3 247	"
Huntsville	Hamilton	D	697	"
Hurricane Mountain	Essex	B	3 763	"
Indian Face (Ausable Pond)	Essex	Approx.	2 536	"
Indian Lake	Hamilton	B	1 705	"
Indian Pass (centre of)	Essex	L	2 884	"
Indian Pass (top of precipice of Wallface Mt.)	Essex	B	3 870	"
Intersection of the Keene Mountain and Edmund's Pond road (east),	Essex	L	981	"
Intersection of the Keene Mountain and Edmund's Pond road (west),	Essex	L	2 027	"
Iron Works, Upper (Newcomb) near furnace	Essex	L	1 789	"

Jackson's (Hotel Cedar river), station near	Hamilton	L	1 686	feet.
Jessup's Landing (Hudson river)	Saratoga	D	562	"
Jessup's River (crossing State road)	Hamilton	B	1 763	"
Jessup's River (outlet of Otter Lake)	Hamilton	D	1 892	"
Jock's Lake	Herkimer	D	2 187	"
John's Brook (road crossing)	Essex	L	1 010	"
John Brown's Place (John Brown's Grave)	Essex	L	1 857	"
Junction of Cold Slough and Marcy Trails	Essex	L	2 028	"
Junction of State road and Sweeny carry	Franklin	L	1 659	"
Keene Flatts (Dibble's)	Essex	L	1 033	"
Keene Flatts (Beede's Old House)	Essex	L	1 300	"
Keene Flatts (Beede's New House)	Essex	L	1 360	"
Keene Flatts (Phelps')	Essex	L	1 053	"
Keene Flatts (Holt's)	Essex	L	1 000	"
Keene Flatts (Washburn's)	Essex	L	1 040	"
Keene Flatts (Tredo's)	Essex	L	1 042	"
Keene Flatts (Shaw bridge)	Essex	L	982	"
Keene Flatts (Foot)	Essex	L	995	"
Keene Flatts (Head)	Essex	L	1 359	"
Keene Village	Essex	L	854	"
Knoll Brook (crossing of road)	Essex	L	997	"
Lake Champlain (mean level for 11 years, 1871 to 1882)		L	96·561	"
Lake Clear	Herkimer	D	2 187	"
Lake Colvin	St. Lawrence	B	1 990	"
Lake Francis	Lewis	L	1 457	"
Lake George (Level observed March 18, 1881)	Warren, etc	L	319	"
Lake Henderson	Essex	L	1 814	"
Lake Placid	Essex	L	1 863	"
Lake Pleasant	Hamilton	D	1 706	"

TABLE OF ALTITUDES IN THE ADIRONDACK REGION — (*Continued.*)

NAME OF STATION.	County.	Method.	Altitude above the sea.	
Lake Reservoir (Woodhull reservoir)	Herkimer	D	1 599	feet.
Lake Sanford	Essex	L	1 723	"
Lake Tear-of-the-Clouds	Essex	L	4 321	"
Lake Tear Notch (Summit of)	Essex	L	4 355	"
Lawrence (North Lawrence)	St. Lawrence	D	313	"
Lawrenceville	St. Lawrence	D	423	"
Lewey Lake	Hamilton	B	1 738	"
Lewey Mountain (See Snowy)	Hamilton	B	3 903	"
Lilly Pad Pond	Hamilton	L	1 597	"
Little Moose Lake (Fulton Chain)	Herkimer	D	1 772	"
Little Tuppers Lake	Hamilton	L	1 728	"
Long Lake	Hamilton	L	1 630	"
Long Pond (Oregon)	Hamilton	B	1 960	"
Long Pond Mountain	Hamilton	B	2 268	"
Long Pond (Catlin Waters)	Hamilton	D	1 600	"
Long Tom Mountain	St. Lawrence	B	2 604	"
Loon Lake (Beaver River)	Herkimer	L	1 683	"
Lost Lake (Oswegatchie)	St. Lawrence	B	1 761	"
Lower Saranac	Franklin	L	1 539	"
Lower St. Regis	Franklin	L	1 623	"
Lower Spectacle Pond	Franklin	L	1 643	"
Lowville (Railroad track)	Lewis	L	779	"
Lyon Mountain (mean of two Months Ob's)	Clinton	B	3 809	"
Lyon's Falls (R. R. Station)	Lewis	D	840	"
Lyons (North Elba P. O.)	Essex	L	1 820	"

Luzerne Lake	Warren	L	625	feet.
Macomb, Mount	Essex	B	4 371	"
Mac Intyre (brook crossing trail Indian Pass)	Essex	B	2 173	"
Mac Kenzie Pond Stream (road crossing)	Essex	L	1 538	"
Mac Kenzie Pond Mountain (or Mt. St. Armand)	Essex	L	3 789	"
Malone City	Franklin	D	609	"
Marcy (Mt. Marcy)	Essex	L	5 344	"
Marcy Brook (Haystack branch crossing at Panther gorge)	Essex	L	3 340	"
Marcy Brook (Panther gorge crossing)	Essex	L	3 349	"
Marcy (Hump on)	Essex	L	4 998	"
Marcy (Timber line on)	Essex	L	4 901	"
Marcy Station (U. & B. R. R. R)	Oneida	D	582	"
Martin's, Lower Saranac Lake	Franklin	L	1 548	"
Mason Lake	Hamilton	B	1 860	"
McBride Place (Raquette River)	Franklin	L	1 573	"
Middle Saranac Lake or Round Pond	Franklin	L	1 542	"
Mineville	Essex	B	1 374	"
Minnie Pond	Hamilton	B	2 131	"
Mirror Lake	Essex	L	1 859	"
Mirror Lake Stream (road crossing)	Essex	L	1 845	"
Moody (Triangulation Station)	Franklin	L	1 623	"
Moose Lake, Big (Moose River)	Ham. & Herkimer,	B	1 787	"
Moose Lake, Little (Moose River)	Herkimer	D	1 772	"
Moose Lake (Military road)	Hamilton	B	2 239	"
Moose Mountain (Ampersand)	Franklin	B	3 432	"
Moss Lake	Essex	B	4 312	"
Mouth of Sacondaga River (station near)	Saratoga	L	560	"
Mt. Clinton	Essex	B	4 937	"
Mt. Colden	Essex	B	4 753	"

TABLE OF ALTITUDES IN THE ADIRONDACK REGION — (*Continued.*)

NAME OF STATION.	County.	Method.	Altitude above the sea.	
Mt. Colvin	Essex	B	4 142	feet.
Mt. Discovery	Essex	B	1 582	"
Mt. Discovery, Little	Essex	B	1 375	"
Mt. Dix	Essex	B	4 916	"
Mt. Haystack	Essex	L	4 918	"
Mt. Hoffman	Essex	Approx.	3 727	"
Mt. Hurricane	Essex	B	3 763	"
Mt. MacIntyre range (summit of or Mt. Algonquin)	Essex	L	5 112	"
Mt. Marcy (Tahawus)	Essex	L	5 344	"
Mt. Maxham	Warren	B	2 510	"
Mt. Redfield	Essex	B	4 688	"
Mt. Santanoni	Essex	B	4 644	"
Mt. Seward	Franklin	B	4 384	"
Mt. Seymour	Franklin	B	3 928	"
Mt. Skylight	Essex	L	4 889	"
Mt. St. Louis	Herkimer	B	2 295	"
Mud Lake (Bog River)	St.Lawrence&Ham.	B	1 745	"
Mud Lake (Woodhull Reservoir)	Lewis	D	1 799	"
Mud Pond (Blue Mt.)	Hamilton	B	1 968	"
Newcomb Lake	Essex	D	1 698	"
Niger Lake (Red Horse chain)	Herkimer	B	1 842	"
Nipple Top Mt	Essex	B	4 684	"
North Branch (reservoir of Black River)	Herkimer	D	1 821	"
North Elba Bridge	Essex	L	1 686	"

North River at Newcomb Bridge	Essex	L	1 556	feet.
North River Mountain	Essex	B	3 758	"
Northville (Tannery)	Fulton	D	732	"
Norway Mountain	Clinton	B	2 666	"
Ogdensburgh	St. Lawrence	D	242	"
Old Forge (Moose River)	Herkimer	D	1 684	"
Oulnska Pass	Franklin	B	3 086	"
One Acre Pond (Paul Smith's)	Franklin	L	1 644	"
Ord Falls	Essex	D	1 551	"
Osgood Pond	Franklin	L	1 659	"
Otter Lake (Arietta)	Hamilton	D	2 236	"
Otter Pond	St. Lawrence	B	1 959	"
Owls Head Mountain	Hamilton	B	2 825	"
Panther Gorge	Essex	L	3 353	"
Partridge Hill (Summit)	Essex	L	1 664	"
Partridge Hill (Foot)	Essex	L	995	"
Passengers (Lock 109, Black River Canal)	Lewis	L	771	"
Paul Smith's Reservoir Pond	Franklin	L	1 646	"
Petrie's Corners	Lewis	L	971	"
Phelps' KeeneValley	Essex	L	1 053	"
Piseco Lake	Hamilton	D	1 648	"
Pitch–off Pass	Essex	L	1 709	"
Placid (Lake Placid)	Essex	L	1 863	"
Pleasant (Lake Pleasant)	Hamilton	D	1 706	"
Poke-a-Moonshine Mt.	Essex	B	2 171	"
Potash Kettle Mt.	Warren	D	1 735	"
Pork Camp (Marcy Trail)	Essex	L	2 288	"
Port Leyden (R. R. Station)	Lewis	D	892	"
Pottersville	Warren	L	832	"
Preston Pond (Upper)	Essex	L	2 161	"

TABLE OF ALTITUDES IN THE ADIRONDACK REGION—(*Continued.*)

NAME OF STATION.	County.	Method.	Altitude above the sea.	
Prospect House (Upper Saranac Lake)	Franklin	L	1 592	feet.
Prospect Hill (Keene)	Essex	L	1 142	"
Puffer Pond	Hamilton	B	2 229	"
Ragged Mountain (Summit)	Essex	B	4 163	"
Rand Hill	Clinton	Δ & B	1 307	"
Raquette Lake	Hamilton	L	1 774	"
Raquette River (Settlement at School House)	Franklin	L	1 612	"
Raven (Raven Hill)	Essex	B	1 982	"
Ray Brook, Little (at road crossing)	Essex	L	1 573	"
Redfield (Mount Redfield)	Essex	B	4 688	"
Red Horse chain (see Salmon Lake)	Herkimer	B	1 756	"
Remsen	Oneida	D	1 181	"
Rich Lake (Catlin chain)	Essex	L	1 568	"
Rift Hill (Lake Pleasant)	Hamilton	B	2 141	"
Roaring Brook (at B. M. No. 55)	Essex	L	1 121	"
Rock Lake (of Rock river)	Hamilton	D	1 765	"
Rock River Dam (34th Dam) station near	Hamilton	L	1 779	"
Roots (Schroon River) W. T. Hotel, now Hall's	Essex	L	870	"
Roses Pond (Beaver River)	Hamilton	Approx.	1 847	"
Round Lake (of Big Brook)	Hamilton	D	1 707	"
Round Lake (Middle Saranac)	Franklin	L	1 542	"
Round Mountain Notch (Keene)	Essex	B	2 546	"
Round Pond (of 13th)	Hamilton	D	1 880	"
Round Pond (Catlin chain)	Hamilton	D	1 635	"

Round Pond (of Little Tuppers Lake)	Hamilton	L	1 728	feet.
Rugged Pond	Franklin	D	1 594	"
Rustic Lodge (Whiteface Mt.)	Essex	B	4 116	"
Sacondaga River (Mouth of) station near	Saratoga	D	560	"
Saddle Mountain	Essex	B	4 536	"
Salmon Lake (Red Horse chain)	Herkimer	B	1 756	"
Salmon Pond (of Long Lake)	Hamilton	D	2 080	"
Sanford (Lake Sanford)	Essex	L	1 723	"
Sand Lake (of Woodhull reservoir)	Herkimer	D	1 793	"
Santanoni Camp	Essex	B	3 044	"
Santanoni Mountain	Essex	B	4 644	"
Saranac Lake (Upper)	Franklin	L	1 577	"
Saranac Lake (Lower)	Franklin	L	1 539	"
Saranac Lake (Middle)	Franklin	L	1 542	"
Saranac River (above dam at Harrietstown)	Franklin	L	1 533	"
Saratoga (R. R. Tracks)	Saratoga	D	306	"
Schroon Lake	Warren	L	806	"
Scott's Pond (No. 1)	Essex	B	3 091	"
Scott's Pond (No. 2)	Essex	B	3 168	"
Second Lake (Bog River)	St. Lawrence	B	1 736	"
Second Lake (Fulton chain)	Herkimer	D	1 684	"
Seventh Lake (Fulton chain)	Hamilton	D	1 762	"
Seward (Mount Seward)	Franklin	B	4 384	"
Seymour (Mount Seymour)	Franklin	B	3 928	"
Sharps (Lowville and No. 4 road)	Lewis	L	971	"
Silver Lake Mountain	St. Lawrence	B	2 604	"
Silver Lake	St. Lawrence	B	1 983	"
Sixth Lake (Fulton chain)	Hamilton	D	1 760	"
Skylight (Mount Skylight)	Essex	L	4 889	"

TABLE OF ALTITUDES IN THE ADIRONDACK REGION — (*Continued.*)

NAME OF STATION.	County.	Method.	Altitude above the sea.	
Smith's Lake	Hamilton	L	1 725	feet.
Smith's Ledge	Hamilton	B	2 273	"
Snowy Mountain	Hamilton	B	3 903	"
South Branch Beaver River (Carthage road crossing)	Herkimer	L	1 669	"
South McIntyre Mt. or Mt. Iroquois	Essex	B	4 937	"
South Mountain (Balm of Gilead Mt.)	Warren	B	1 953	"
South Pond	Hamilton	B	1 769	"
Speculator Mountain	Hamilton	B	3 041	"
Spectacle Pond (Upper)	Franklin	L	1 643	"
Spectacle Pond (Lower)	Franklin	L	1 643	"
Spitfire Pond	Franklin	L	1 623	"
Spring on Ampersand Mt	Franklin	B	2 966	"
Spring Pond (Bog River)	St. Lawrence	B	1 809	"
Spring on Whiteface Mt., Lake Placid side	Essex	L	2 817	"
Spruce Lake	Hamilton	D	2 358	"
Stevens Hotel (Lake Placid)	Essex	L	1 967	"
Stillwater Pond (Beaver River)	Herkimer	L	1 656	"
Stittsville	Oneida	D	556	"
Stockholm (West Stockholm) up. St. Regis	St. Lawrence	D	433	"
Stockholm Station	St. Lawrence	D	286	"
Stony Creek Pond (High-water)	Franklin	L	1 553	"
Stony Pond (Big brook west of Long Lake)	Hamilton	L	1 721	"
Steuben Corners	Oneida	D	1 275	"
St. Louis (Mt. St. Louis)	Herkimer	B	2 295	"
St. Regis Mountain	Franklin	L	2 888	"

St. Regis Lake (Upper)	Franklin	L	1 623	feet.
St. Regis Lake (Lower) Paul Smith's	Franklin	L	1 623	"
St. Regis River (at Key's Mill)	Franklin	L	1 623	"
Summit on road between the East and West branch of the Au Sable River	Essex	L	2 207	"
Summit on road between the Saranac River at Harrietstown and the lower Saranac	Franklin	L	1 634	"
Summit between Blue Mt. Lake and Rock River	Hamilton	D	1 820	"
Summit between Spruce Lake and West Canada Creek	Hamilton	D	2 409	"
Summit between Piseco Lake and Morehouse	Hamilton	D	1 722	"
Summit Water Pond (see Lake Tear,)	Essex	L	4 321	"
Tahawus (Mt. Marcy)	Essex	L	5 344	"
Tahawus Village	Essex	D	1 810	"
Taylor Pond	Clinton	D	1 659	"
Tear-of-the-Clouds (Lake)	Essex	L	4 321	"
Terrel's Lake (Blue Mt.)	Hamilton	D	1 900	"
Thayer's Lake	Hamilton	L	1 792	"
Theresa Station (U. & B. R. R. R.)	Jefferson	D	330	"
Third Pond (Bog River)	St. Lawrence	B	1 737	"
Thirteenth Pond	Hamilton	B	1 953	"
Three Pound Pond	St. Lawrence	B	1 802	"
Totten and Crossfield line at Carthage road	Herkimer	L	1 714	"
Totten and Crossfield line at Keene Valley	Essex	L	1 120	"
Township line No. 22	Franklin	L	1 574	"
Transparent or Jock's Lake	Herkimer	D	2 187	"
Trenton (Station on Railroad)	Oneida	D	836	"
Triangulation Station (Brewster)	Essex	L	1 981	"
Triangulation Station (Moody) on county line	Essex & Franklin	L	1 623	"
Tuppers Lake (Big) — Reservoir	Hamilton & St. Law.	L	1 552	"
Tuppers Lake (Little)	Hamilton	L	1 728	"
Upland Valley (Boquet River crossing)	Essex	B	2 425	"
Upper Au Sable Lake	Essex	L	1 993	"

TABLE OF ALTITUDES IN THE ADIRONDACK REGION — (*Continued.*)

NAME OF STATION.	County.	Method.	Altitude above the sea.	
Upper Edmunds Pond	Essex	L	2 038	feet.
Upper Saranac Lake	Franklin	L	1 577	"
Upper St. Regis Lake	Franklin	L	1 623	"
Utawana Lake	Hamilton	L	1 800	"
Utica City (R. R. Station)	Oneida	D	405	"
Wallface Mountain (Top)	Essex	B	3 893	"
Wallface Mountain (Foot)	Essex	B	2 367	"
Wallface Precipice (Greatest height)	Essex	B	1 355	"
Wallface Mountain Pond	Essex			
Wardwell's Pond	Herkimer	L	1 656	"
Watson P. O	Lewis	L	763	"
Wellstown	Hamilton	D	850	"
Westport (Academy at B. M. 3)	Essex	L	165	"
West intersection of Keene Mountain and Edmunds Ponds roads	Essex	L	2 027	"
Whiteface Brook (1st crossing on trail)	Essex	L	1 959	"
Whiteface Brook (2nd crossing on trail)	Essex	L	2 023	"
Whiteface Mountain	Essex	L	4 871	"
White's Mill Pond (North Elba)	Essex	L	1 728	"
White Pond (Oswegatchie)	Herkimer	B	1 687	"
Wilmington Village	Essex	B	1 058	"
Wood Hill (Elizabethtown)	Essex	B	1 151	"
Woodhull Reservoir	Herkimer	D	1 854	"
Wyman (Lake W.)	Herkimer	D	2 187	"

APPENDIX F.

CORRESPONDENCE

OF

COMPTROLLER

RELATING TO

STATE LANDS.

The following letters contain corrections to the list of State lands published in the earlier reports of this Survey, and should be examined by those who may have occasion to refer to the list:

STATE OF NEW YORK
COMPTROLLER'S OFFICE,
ALBANY, *July* 11*th*, 1883.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — The lands described as

"Clinton County,
Duerville Patent,
Lot 42.. 250^a and
Refugee Tract.
420^a Lots.
Lot 194, E. ½ .... 210^a,"

are no longer State property, and should therefore be struck from your list of State lands in said county.

Respectfully yours,
IRA DAVENPORT,
Comptroller.

STATE OF NEW YORK

Comptroller's Office,
Albany, *July 20th*, 1883.

Verplanck Colvin, *Supt. Adirondack Survey, Albany, N. Y.:*

Sir — The land described as

"Clinton County,
Pion Patent,
Lot 5, b'd N. by Lewis, E. by Turner, and S. lot line...... 25ª,"

is no longer State property, and should therefore be struck from your list of State lands in said county.

Respectfully yours,
IRA DAVENPORT,
Comptroller.

STATE OF NEW YORK

Comptroller's Office,
Albany, *September 1st*, 1883.

Verplanck Colvin, *Supt. Adirondack Survey, Albany, N. Y.:*

Sir — The land described as

"Clinton County,
Pion Patent,
Lot 4, N. E. ¼, except 27ª, N. E. cor. thereof .... 98ª,"

is no longer State property, and should, therefore, be struck from your list of State lands in said county.

Respectfully yours,
SIDNEY W. PARK,
Chief Tax Clerk.

STATE OF NEW YORK

Comptroller's Office,
Albany, *December 31st*, 1883.

Verplanck Colvin, *Supt. Adirondack Survey, Albany, N. Y.:*

Sir — You are hereby notified that the lands described as

"Essex County,
Old Military Tract,
Township 11,
Lot 217 .... 200ª,"

is no longer State property, and should, therefore, be struck from your list of State lands.

By order of the Comptroller,
SIDNEY W. PARK,
Chief Tax Clerk.

STATE OF NEW YORK
Comptroller's Office,
Albany, *January 9th*, 1884.

Verplanck Colvin, *Supt. Adirondack Survey, Albany, N. Y.:*

Sir — You are hereby notified that the lands described as

"Hamilton County,
Totten and Crossfield's Purchase,
Township 37,
Lots 13, 33, 71 to 82, inc., 95 to 99 inc., 101 to 106, inc., and 112 and 113,"

are no longer State property, and should, therefore, be struck from your list of State lands.

Respectfully yours,
ALFRED C. CHAPIN,
Comptroller.

STATE OF NEW YORK
Comptroller's Office,
Albany, *January 18th*, 1884.

Verplanck Colvin, *Supt. Adirondack Survey, Albany, N. Y.:*

Sir — You are hereby notified that the State no longer holds the 1853 tax-sale title to the land described as

"Clinton County,
Old Military Tract,
Township 4,
Lot. 15, E. $\frac{2}{3}$ of S. $\frac{1}{2}$.................................. $213\frac{1}{3}^{a}$,"

nor the 1881 tax sale title to the land described as

"Essex County,
Old Military Tract,
Township No. 11,
Lot 221... 120^{a},"

you should, therefore, erase them from your lists of State lands.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK

COMPTROLLER'S OFFICE,
ALBANY, *January 22d*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — You are hereby notified that the State no longer holds title to the lands in Essex county, described as

"Morgan (Jonas) Patent of 4,800^{a},
Lot 16 .... 100^{a},"

it having been redeemed therefrom on the 19th inst., and

"Totten and Crossfield's Purchase,
Township 14,
Lot 32 .... 160^{a},"

the 1877 tax-sale thereof having been canceled on the 19th inst.

You should, therefore, erase them from your list of State lands.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK

COMPTROLLER'S OFFICE,
ALBANY, *January 25th*, 1884.

VERPLANCK COLVIN, *Albany, N. Y.:*

SIR — The land described as

"Herkimer County,
Jerseyfield Patent,

Lot 57, S. W. cor., square $476\frac{47}{100}{}^{a}$, and on the W. line adj. aforesaid $476\frac{47}{100}{}^{a}$ square,
15^{a}, in all .... $491\frac{47}{100}{}^{a}$,"

which was included in the list furnished you of lands acquired by the State from the 1881 tax-sale, is *not* State property, and should, therefore, be struck from said list.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK
COMPTROLLER'S OFFICE,
ALBANY, *February 23d*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — The following described lands, which were included in the list of State lands sent you from this office, no longer being State property, should be struck therefrom, viz.:

"Clinton County,
Old Military Tract,
Township 5,

Lots 2 to 12, inc., 28 to 33, inc., Lots 48, 50 to 66, inc., and 68, 69 and 70."

"Essex County,
Old Military Tract,
Township 1 and 2,
Richard's Survey,

Lot 42, W. part.................................... 100^a,

"Township 12,
Thorn's Survey,

Lot 22, S. ½.. 80^a,
" 59, do.. 80^a,
" 143, W. ½.. 80^a,

"Roaring Brook Tract,

Lot 47.. 260^a,"

"Franklin County,
Gore, East of Township 9, Old Military Tract,

Lot 9, S. E. cor.................................... 30^a."

"Macomb's Purchase,
Great Tract 1,
Township 23,
S. E. ¼,

N. end of 144^a, N. W. cor., &c....................... 111^a,
S. " " " " &c....................... 33^a,"

"Old Military Tract,
Township 10,
Lots 220, 293 and 354."

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK

COMPTROLLER'S OFFICE,
ALBANY, *March 7th*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — The land described as

"Herkimer County,
Jerseyfield Patent,
Lot 41, N. ½, Ex. 50ᵃ S. E. cor. and 50ᵃ S. W. cor. thereof, resident land of David Hodge, 425ᵃ,"

having been redeemed from our 1881 tax-sale, should be struck from your list of lands bid in thereat by the State.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK

COMPTROLLER'S OFFICE,
ALBANY, *March 8th*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — The lands described as

"Clinton County,
Pion Patent,
Lot 4, S. W. cor., b'd E. by Turner 7ᵃ,
and
Hamilton County,
Bergen's Purchase,
Patent No. 7,
Lot 1,.. 270ᵃ,"

no longer being State property, should be struck from list of State lands.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK

COMPTROLLER'S OFFICE,
ALBANY, *April 22d*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — The following described land, being no longer State property, should be struck from your list of State lands, viz.:

"Warren County,
Rear division,
Palmer's Purchase,
Great Lot 3,
N. ½ of 3,150^a, S. pt. .... 1,575^a,"

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK

COMPTROLLER'S OFFICE,
ALBANY, *April 25th*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.*.

SIR — As the State now holds no title to the lands described as

"Herkimer County,
Vrooman's Patent,
Lot 9 all in Wilmurt, except 60^a W. end thereof.......... 74^a,"

it should be struck from your list of State lands.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comvtroller

STATE OF NEW YORK

COMPTROLLER'S OFFICE,
ALBANY, *April 26th*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — The land described as

"Fulton County,
Lott and Low's Patent,
Lot 29, S. W. cor. .... 40^a,"

is no longer State property, and should, therefore, be struck from your list of State lands.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK

COMPTROLLER'S OFFICE,
ALBANY, *April* 28*th*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — The land described as

"Clinton County,
Gores,
Livingston Gore,

Lot 22, S. E. cor., 39^{a}, ex. S. Eell's 3^{a} in S. E. cor., 10^{a}, b'd N. by 10^{a} owned by A. Norris, E. by lot line, S. by 3^{a} owned by Eells, and W. by 15^{a} of McMurray, and 11^{a}, b'd N. by Farrell, E. by Town line, S. by Allen, and W. by McMurray, 15^{a},"

should be placed on the list of State lands, recently sent you, it having been erroneously omitted therefrom by us.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK

COMPTROLLER'S OFFICE,
ALBANY, *April* 28*th*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — Lot 250, Oxbow Tract, Hamilton county, is not now owned by the State, and should, therefore, be struck from your list of State lands.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comvtroller.

STATE OF NEW YORK

COMPTROLLER'S OFFICE,
ALBANY, *April 30th*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — The land described as

"Clinton County,
Old Military Tract,
Township 6,
Lot 34, N. W. cor., 94 r. wide N. and S, and 120 r. long, E. and W. .... 70ª,"

being no longer State property, should be struck from your list of State lands.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK

COMPTROLLER'S OFFICE,
ALBANY, *May 12th*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR—The lands described as

"Fulton County,
Jerseyfield Patent,
Lot 60, S. E. ¼ or S. E. cor. 250ª,
and " 61 W. part, S. W. cor., or W. cor. .... 100ª,"

being no longer State property, should be erased from your list of State lands.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK

COMPTROLLER'S OFFICE,
ALBANY, *June 7th*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — The land described as

"Essex County,
Totten and Crossfield's Purchase,
Township 49,
Lot 12, ex. 25^a N. E. cor. and 253^a S. E. cor. . . . . 547^a,"

not being State property, should be struck from your list of State lands.

Respectfully yours,
TH. E BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK
COMPTROLLER'S OFFICE,
ALBANY, *June* 16*th*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — The land described as

"Saratoga County,
Glen and 44 others Patent,
Lot 112. . . . . 250^a,"

being no longer State property, should be erased from your list of State lands.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK
COMPTROLLER'S OFFICE,
ALBANY, *June* 20*th*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — The land described as

"Clinton County,
Duerville Patent,
Lot 41. . . . . 250^a,"

is no longer claimed by the State, and should, therefore, be struck from your list of State lands.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK
COMPTROLLER'S OFFICE,
ALBANY, *August 11th*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — Title to the lands described as

"Hamilton County,
Totten and Crossfield's Purchase,
Township 34,
Ex. 4,000^{a} s'ly end of township, 1,280^{a} Gospel, School and Literature lots," &c., 13,375^{a}.

"Saratoga County,
Kayaderosseras Patent,
22d allotment,
Great Lot 13,
Sub. F., B'd N. by lands of W. W. French, E. by lands of Charles E. Benedict, S. by lands of Perry Arnold, and W. by lands of Standish Bros .... 75^{a},"

being no longer owned by the State, you should erase them from your list of State lands.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK
COMPTROLLER'S OFFICE,
ALBANY, *August 23d*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

SIR — The land described as

"St. Lawrence Co.,
Lisbon Township,
Mile Square Lots,
Range 6,
Lots 4 and 5, Sub. 1.... .... 26$\frac{20}{100}$^{a},"

is no longer claimed by the State, and should, therefore, be struck from your list of State lands.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

STATE OF NEW YORK
COMPTROLLER'S OFFICE,
ALBANY, *October* 15*th*, 1884.

VERPLANCK COLVIN, *Supt. Adirondack Survey, Albany, N. Y.:*

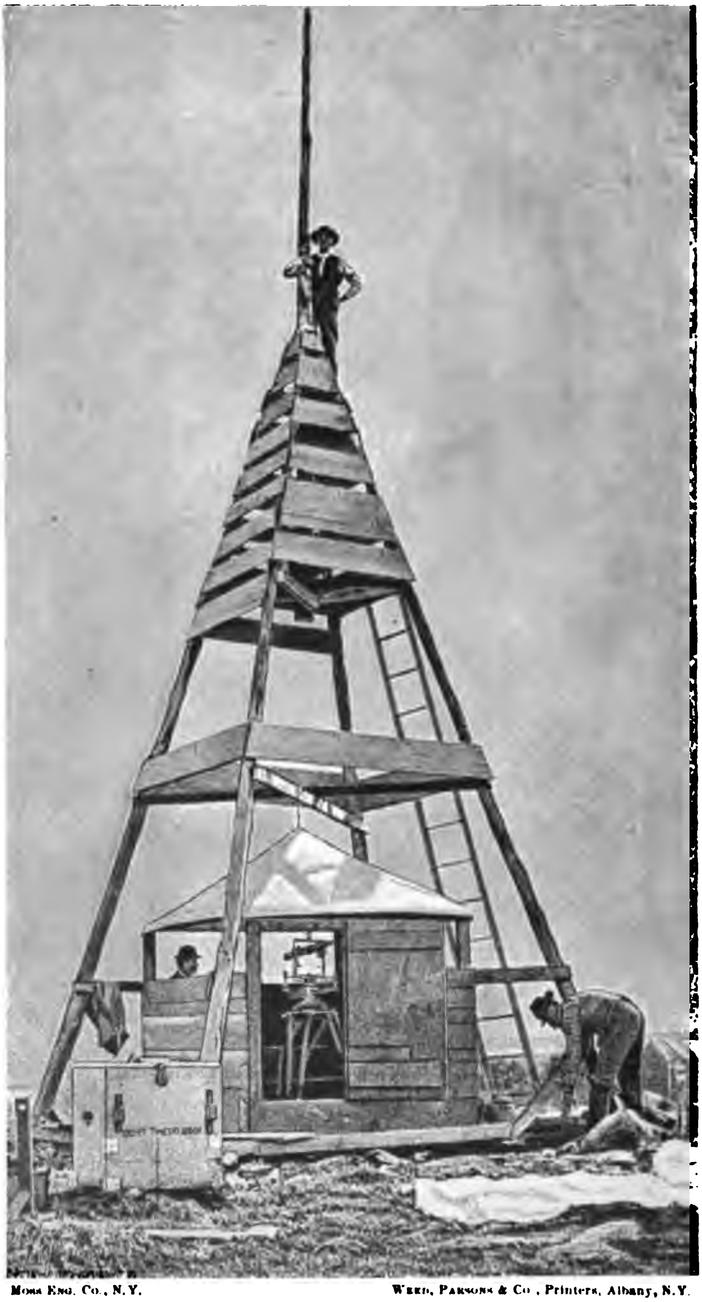
SIR — You are hereby notified that the State no longer holds title to the land described as

"Clinton County,
Plattsburgh Old Patent,
Lot 66, S. E. ¼, or S. E. cor.......................... 100^{a}."

It should, therefore, be struck from your list of State lands.

Respectfully yours,
TH. E. BENEDICT,
Deputy Comptroller.

NEW YORK STATE LAND SURVEY
VERPLANCK COLVIN,
PLATE No 1. *Superintendent.* REPORT 1884



Moss Eng. Co., N.Y. Weed, Parsons & Co., Printers, Albany, N.Y.

SIGNAL, ST. LAWRENCE.

STATION CONNECTING TRIANGULATION WITH THE RIVER ST. LAWRENCE AND THE BOUNDARY LINE BETWEEN UNITED STATES AND CANADA.

STATE OF NEW YORK.

REPORT

ON THE

ADIRONDACK AND STATE LAND SURVEYS

TO THE YEAR 1884

WITH A DESCRIPTION OF THE LOCATION OF THE BOUNDARIES OF THE

GREAT LAND PATENTS

AND AN ACCOUNT OF THE

VARIATION OF THE MAGNETIC NEEDLE IN NORTHERN NEW YORK,

BETWEEN THE YEARS

1766 and 1883,

WITH RAINFALL AND TEMPERATURE TABLES, AND A LIST OF THE
STATE LANDS.

BY
VERPLANCK COLVIN,
SUPERINTENDENT OF SURVEYS.

ALBANY:
WEED, PARSONS AND COMPANY, PRINTERS.
1884.

Entered according to act of Congress in the year one thousand eight hundred and eighty-six,

In the office of the Librarian of Congress

[*All rights reserved*]

STATE OF NEW YORK.

No. 126.

IN ASSEMBLY,

February 28, 1884.

ANNUAL REPORT

OF THE

SUPERINTENDENT OF THE ADIRONDACK AND STATE LAND SURVEYS.

To the Honorable Titus Sheard, *Speaker of the Assembly:*

Sir — Pursuant to chapter 370 of the Laws of 1878, and chapter 499 of the Laws of 1883, I have the honor to submit the accompanying reports on the progress of the surveys and the location of the public lands in the counties of Clinton, Essex, Franklin, Fulton, Hamilton, Herkimer, Lewis, Saratoga, St. Lawrence and Warren, to the Legislature.

Very respectfully yours,

VERPLANCK COLVIN,

Superintendent.

NEW YORK STATE LAND SURVEY.

ACCOUNT CURRENT.

1883-1884.

Dr.

By appropriation, under chapter 499 of the Laws of 1883	$15,000 00

Cr.

By account of expenditures on State Land Survey, rendered to the Comptroller, with vouchers therefor, December 3d, 1883	$7,722 39
By account of expenditures on State Land Survey, rendered to the Comptroller, with vouchers therefor, on February 28th, 1883	5,646 50
By outstanding bills, accounts rendered, wages payable to men at close of work and other work in progress	1,631 11
Total	$15,000 00

ALBANY, *February* 29*th*, 1884.

The foregoing is a correct abstract of the accounts of expenditures upon this Survey. The field expenses of the several sections or divisions of the work were in each department from $700 to $1,600. The details, with bills showing each and every item, will be found in the office of the Comptroller. No allowance for salary or compensation has been made to the superintendent.

VERPLANCK COLVIN.
Superintendent.

REPORT

ON THE PROGRESS OF THE SURVEY OF THE STATE LANDS.

To the Honorable the Legislature of the State of New York:

The work of the Adirondack survey, circumscribed by the limited appropriations, during the past season has been confined to the preparation of maps, the arrangement of data and computations, and the supervision of the engraving of the maps and plates contained in the large volume of reports transmitted to the last Legislature.

My personal attention was withdrawn from these office duties by the passage of the act of June 2d, 1883 (Chap. 499 of the Laws of 1883), by which the location and survey of all the various detached portions of "State lands in the counties of Clinton, Essex, Franklin, Fulton, Hamilton, Herkimer, Lewis, Saratoga, St. Lawrence and Warren," were placed under my direction. In accordance with this law I have the honor to submit the following

REPORT.

In order that the work accomplished may be understood, it is necessary to give an abstract of the requirements of the law directing the survey of the State lands in the counties mentioned.

The first section directs the Superintendent of the Adirondack Survey to make surveys showing the location and area of the lands.

It also requires that this new work shall be connected with the surveys of the interior.

It further requires that the position of such lands shall be shown upon a map or maps.

The second section of the law directs that "the methods of survey shall be in accordance with those now in use on the Adirondack Survey" and that copies of all maps relating to such State lands shall be filed in the office of the Comptroller and State Engineer and Surveyor, and that the Superintendent shall, within sixty days after the meeting of the Legislature, render a report to the Legislature of the results of the work.

In order to carry out the provisions of the law, I commenced on the 4th of June, 1883, the organization of the Survey parties.

One general principle was adopted as a rule governing every section of the work of the Survey, in the restoration of the boundaries:

The re-discovery of the original lines and corners, as identified by means of the original line marks and proved by witnesses, both by indisputable oral and documentary evidence;

The re-marking and monumenting of none but the original lines, of patents tracts or lots, separating and eliminating them from the more recent and erroneous compass lines.

In advance of the actual field work it was necessary to obtain a list of the lands owned by the State as recorded in the books of the Comptroller. Application was therefore made to the Comptroller for an abstract of the State lands then recorded, and upon the receipt of this abstract, the approximate location of the several tracts, pieces and parcels of land in the counties mentioned in the law was studied upon the preliminary maps of those counties, which had been prepared during the preceding survey of the wilderness.

The area of the several pieces thus recorded as State property was found to be more than five hundred and seventy-three thousand acres, nearly all in detached portions, except those interior townships heretofore located.

It was found that the Comptroller and the officers of the Tax Department were unable to locate many pieces of State land, owing to the uncertainty and the obliteration of the boundary lines, and that valuable timber was in different places being removed from the State lands without the authorities possessing the power to prevent it or to prove the trespass or punish the offenders.

The State lands, therefore, whose boundaries were most uncertain and, in consequence of suspected trespass, most required to be located by survey, were held to be the tracts which deserved the most immediate attention, and the following letter was, therefore, addressed to the Comptroller:

STATE OF NEW YORK:

ADIRONDACK SURVEY OFFICE,
ALBANY, *June* 12th, 1883.

HON. IRA DAVENPORT,
Comptroller:

SIR — In accordance with the provisions of chapter 499 of the Laws of 1883, I am directed to make surveys, showing the location and area of the different detached portions of the State lands in all of the north-eastern counties of the State — the work to be done in accordance with the methods now in use on the Adirondack Survey.

In entering upon this work I would request that if any particular portions of the State lands, in your judgment, require immediate survey, you will call my attention to the same, and direct your deputy and the chief of the tax department to furnish me with such memoranda as will enable me to take up these special surveys at an early day.

Very respectfully yours,
VERPLANCK COLVIN,
Superintendent.

The following communication was received, in reply, from the Comptroller:

STATE OF NEW YORK:

COMPTROLLER'S OFFICE,
ALBANY, *June* 18th, 1883.

VERPLANCK COLVIN,
Superintendent N. Y. State Adirondack Survey,
Albany N. Y.:

SIR — Yours of the 12th inst. was duly received. In reply thereto I will state, that it is deemed of great importance that, pursuant to the provisions of chapter 499, Laws of 1883, the following surveys should first be made by you, viz.:

First. One definitely establishing the outlines and dimensions of township 5, Old Military Tract, Clinton county, and of each of its subdivisions. A map should be made of the same, showing the location, dimensions and acres of the numbered lots, both by the old and the new survey, the line between the towns of Dannemora and Ellenburgh, with the dimensions and acres of each new survey lot in each town, together with the dimensions and acreage of each part of each new survey lot covered by any old survey lot.

[illegible] we yet have access, it
[illegible] 5 was by the new survey
[illegible] W., and ten lots in
[illegible] a copy of said new
[illegible] clerk's office prior to the
[illegible] map required, which
[illegible] as the "Prison
[illegible] thousand acres, are located
[illegible] located or described,
[illegible] trespassers thereon,
[illegible] discrepancies. As
[illegible] confounded," for not a
[illegible] reliably described.

[illegible] said maps of still
[illegible] township "from which
[illegible] designated by coloring,
[illegible] adopt, and that the
[illegible] of the land be also
[illegible]

[illegible] Jerseyfield Patent, the
[illegible] in question, and on
[illegible] of State Land.
[illegible] run, and recog-
[illegible] they are widely out of
[illegible] the north line of said
[illegible] to the rapid felling
[illegible] quickly rectified and
[illegible]

[illegible] a survey of State Lands.
[illegible] between Lewis and
[illegible] the accurate location of
[illegible] and of the large
[illegible] adjacent thereto, depends
[illegible] Herkimer county line, or if you
[illegible] will authorize your survey
[illegible] your attention to the great
[illegible] obtaining the correct location
[illegible] Herkimer and Lewis.

[illegible]

IRA DAVENPORT,
Comptroller.

Upon the receipt of this communication I caused thorough searches to be made through the different State Departments for all ancient records relating to the old land patents, which I thought would aid in determining the manner in which the re-survey and re-location of these important boundaries should be undertaken. Research was also made for the original grants, deeds and descriptions of all of the tracts in the several counties wherein State lands were situated, and extracts made from all records which might aid in identifying the boundaries. It was soon apparent that the records were both imperfect and conflicting, the Colonial and early State records differing very materially in the description of what should have been identical boundaries. These differences or errors were thought by many to be proof of the absolute falsity of the Colonial surveys. This was not, however, my opinion. From long acquaintance with the ancient compass lines I was inclined to believe that the differences in most old records arose from the hasty manner in which the surveys of that period had been made and the lack of observations of the variation of the magnetic needle. I had confidence that, where the original forest remained, if any line had been run and marked upon the trees as described in the original field notes, careful study of the topography of the section with search for such marked trees would not fail to reveal enough to identify them, even though the marks should have become ingrown deeply into the hearts of the trees.

Upon the staff of the preceding survey I had been fortunate in securing a number of experienced forest surveyors, whose acquaintance with old marked lines rendered them of great value for such work. These men, being the inheritors of the woodcraft of, and acquainted with the methods pursued by the Colonial surveyors in marking the boundaries of the early patents and grants, were not only of service in tracing the lines, but as experts and local authorities as to such lines their services were needed to aid in proving and attesting the lines when found.

It was my intention to place the measurements and survey work under the modern system with the refined methods and instruments of the present day in the hands of skilful engineers, wherever transit or theodolite work should be needed to determine the real location of lines, or their connection — as was required by the law — with the surveys of the interior, but the retracing of lines of ancient marked trees required the presence of expert forest surveyors.

It was soon found that before it would be practicable to make any complete plan for the field work over so vast an area — exceeding half a million of acres of wild land — it would be necessary to prepare diagrams or plans showing the approximate location of the several tracts of State land graphically upon paper, on which, side by side, by the use of variously colored lines the questionable boundaries and problems as to disputed corners, etc., could be given a preliminary study. This done, written instructions could be prepared for the guidance of the surveyors; these, together with a tracing of the diagram of the plan of work, would be sufficient to guide the assistant in charge of any one of the many detached survey parties, which I soon found it would be necessary to place in the field.

Verbatim copies were also needed of the ancient field notes and records, in order to identify the marked trees with the original notes so as to compare the general description of the country and aid the search for the lost lines.

To do this work promptly a considerable clerical force was found to be necessary and was immediately organized.

Clerks were sent to the offices of the Secretary of State, the State Engineer and Surveyor and the Comptroller, and papers and books, many of them long disused and discolored by age, were brought to light, copied and compared.

Some of these ancient documents were very curious and interesting, but they often failed to be intelligible, so that the work of copying them was, at times, a work of interpretation if not of translation.

The most toilsome research often failed to give any information, even of the date when the old patents were surveyed. This was a matter of great consequence, inasmuch as the boundary lines were originally run with the magnetic needle, and, in order to retrace such lines, it is essential that the date of the original survey should be known, to make the proper allowance for the change in the variation of the needle.

This preparatory work also included the repairing of instruments and the arrangement of camp equipments for the survey parties.

Many of the instruments, in being brought down from the icy ledges of mountain summits at the close of field-work the preceding winter, (December 1882), had been jarred and otherwise injured by breaking of cleats within their boxes and required thorough repairing.

In order to accomplish the field-work promptly, I found that it would be necessary to place a separate survey party in each county; and to tie the work together and connect it with the interior triangulation of the Adirondack Survey, twenty-inch and twelve-inch theodolites would be required in the measurement of the larger triangles — the lands in Clinton county being over one hundred miles from those in Fulton county, and *only* to be connected by special triangles based upon the triangle sides of the Adirondack Survey. To do this in compliance with the law, which required that the "methods of survey should be in accordance with those now in use on the Adirondack Survey," the large theodolites were needed and were placed in the hands of the instrument makers, Stackpole & Brother of New York, and improvements made in their construction from drafts which I prepared. These improvements made the instruments much more effective and the progress of the work more rapid.

The transit theodolites and solar transits were placed in the hands of W. & L. E. Gurley, of Troy, for thorough repair. Messrs. Gurley also had charge of all the smaller instruments, stadia rods, transit-staffs with tripods (adjusted by levels) and the compasses, used in searching for and retracing the old lines.

A great amount of correspondence was entailed by the complicated nature of the work. The State lands are adjacent to valuable tracts of private property, and owners were naturally much interested in the work of the survey. Many inquiries also had to be made as to private records, and a voluminous correspondence arose between the Superintendent and the resident Engineers as to the methods proper to be taken and the details of the work proposed in each of the ten counties. Some idea of the great labor involved in this portion of the work may be obtained from the fact that thousands of letters and dispatches were received, and that more than one thousand answers, dispatches and letters of instruction as to details of work were written by the Superintendent, copied and sent out, and recorded in a book of abstracts.

No portion of the work was taken up in the field, until written contracts as to rates of compensation had been made with the assistants and surveyors employed. Only by such means could exact estimates be made of the expense of the work, and its cost at any given moment be ascertained. The regular weekly reports of work done, expenses, and time and pay-roll, were in accordance with the Manual of the Adirondack Survey, required from each division, and greatly aided the Superintendent in watching and directing the progress of the work.

ORGANIZATION.

The subdivision and arrangement of the several sections of work was as follows:

The general direction by the Superintendent, aided by assistant M. Blake, in charge of office, and several clerks.

[Temporary clerks were employed in the office copying and arranging data preliminary to the field-work. Subsequently most of them took the field as rodmen, chainmen, etc.]

Thirteen survey and signal parties were placed in the field during 1883.

(1.) Primary Triangulation. (Connection of the detached surveys with the lines of the Adirondack Survey in the interior, so as to plat the same upon the maps.) Several counties. By the Superintendent.

(2.) Secondary Triangulation. (Same object.) Several counties. M. Blake, in charge.

(3.) Clinton County. (Old Military Tract, Township No. 5; Prison Lands, Dannemora; Chazy and Chateaugay Lakes. H. K. Averill, in charge.

(4.) Fulton and Herkimer Counties. *First Section.* (South line of Vrooman's Patent, and Western part of Lawrence Patent, and Jerseyfield line. S. H. Snell, in charge.

(5.) Second section (Jerseyfield line to Glen, Bleeker and Lansing line), J. B. Koetteritz, in charge; G. Jones, line expert; L. Kelly, line expert.

(6.) Lewis and Herkimer Counties. (Restoration and location of ancient lines.)

S. H. Snell, in charge, after completion 1st section of Jerseyfield line.

(7.) Hamilton County. (Totten and Crossfield's purchase, Moose River Tract, Benson and Lawrence Tracts, etc.)

J. Francisco, in charge; L. Kelley, associate surveyor on south line of Benson and Hamilton county line.

(8.) St. Lawrence County. (Macomb's purchase, township of Granshue.)

S. B. Crandall, in charge.

(9.) Essex County. (Township 1 and 12, Old Military Tract, Totten and Crossfield purchase, Roaring Brook Tract, etc.)

G. L. Locke, retracing and monumenting lines under immediate direction of Assistant Blake.

(10.) Franklin County. First section (Macomb's purchase). Connection of lines by S. J. Farnsworth, Assistant.

(11.) Second section. Boundary between townships 15 and 18 retraced under a special contract by S. Wardner.

(12.) WARREN COUNTY. Work limited to correction of bearings to true azimuths to facilitate the accurate preparation of maps of State lands.

In Saratoga county measurements were made locating boundaries of lots in Palmer's purchase as hereafter described.

Much topographical work was done and accurate leveling in various sections, where the altitudes were considered of importance. The leveling was done by Mr. N. L. Rush.

(13.) SIGNAL WORK. In the counties of Fulton, Hamilton and Essex, by signalman Brown; in Lewis county, by signalman Snell; in Clinton county, by signalman Sperry; in St. Lawrence, etc., by special contracts.

FIELD-WORK.

Before entering upon a detailed statement of the measurements made in each of the above mentioned sections, in the location of the lands, the following brief abstracts from my journal are given and seem to be necessary to show the manner in which the work was conducted.

By the 25th of June the contracts had been made, the repairs of the larger instruments, with the preparation of tents, etc., were all in progress, and the first survey party was placed in the field. The details of their work will be found in the account of the restoration of the first section of the Jerseyfield boundary line.

I remained with this party in their search for the initial point of the line and left them on the 28th inst., having set their work before them.

From June 28th to July 6th, the regular office duties at Albany, occupied my attention. On the evening of the 6th I proceeded to Little Falls and the following day reached Jerseyfield lake, on the boundary line between Herkimer and Hamilton counties.

From July 7th to the 11th, I gave close attention to the work of the survey party then on the north line of Jerseyfield. Their measurements were examined and tested, and instructions given for the extension of the work eastward, as more particularly explained in the section relating to the location of that line. July 12th and 13th were devoted to office work at the capitol.

On the evening of July 14th, I proceeded to Forestport on the Black river in Oneida county, which was appointed as the rendezvous of the preliminary party directed to locate boundaries in the counties of Herkimer and Lewis. The 15th was Sunday.

On the 16th the preliminary party was organized and camp made near the west bounds of the county of Herkimer. The location of this county line requiring to be shown upon the maps, and being involved in doubt, was the first question taken up. Search was made by different sections of the survey party, and a plan finally adopted for the retracing of this line and its connection with the signal station of the Adirondack Survey, by which the true geographical position of the line and its connection with the land lines and allotments as desired by the Comptroller, would be obtained. I remained with this party until July 23d, when leaving them to trace the line and measure offsets to signal stations I returned to the capitol where telegrams and correspondence had accumulated.

On July 28th I returned to Herkimer county, where on the evening of the 29th I was rejoined by surveyor Snell and party at the village of Grant.

On August 4th the work of this survey party being well started, and over a mile of line run, I left them in charge of Mr. Snell, and proceeded across the county of Herkimer to Moorehouseville, in the county of Hamilton, reconnoitering sites for signal stations to connect the Herkimer county line with the work on the Jerseyfield line.

Observations of the sun were secured at Morehouseville with solar transit, and the variation of the needle found to be 8° 24′ west of true north. Lines supposed by original surveyors to be nearly on the true meridian, were found to be several degrees in error.

On August 6th, by way of Piseco and Oxbow lakes, I reached Lake Pleasant in Hamilton county, and ascertained the movements and progress of one of the signal parties that had been sent out.

On the 7th I reached Albany again, and resumed office work, being busied on the 8th and 9th with correspondence and making out drafts, to be forwarded to chiefs of parties to meet their running expenses.

August 10th my attendance was desired by the Senate special committee on State Lands, and between the 10th and 20th inst. I accompanied the committee in their examination of the lands through the counties of Warren, Essex, Hamilton, Franklin and St. Lawrence.

While aiding the committee in their work I was able to maintain the management of the survey parties in the several counties by telegrams and dispatches sent and received at Blue mountain, Saranac lakes and St. Regis, etc., and orders by special messengers.

August 22d I left the Senate committee and proceeded from Cranberry lake to Moosehead mountain on the Raquette to inspect the survey work in that section. This mountain I measured the same day, and from the signal station on the summit obtained angles connecting the survey work proceeding in the county of St. Lawrence under assistant Crandall with the Adirondack Survey triangulation.

August 23d, I ascended Bog mountain, which was to be the terminus of Mr. Crandall's transit line, connecting this survey of the State lands in Granshue, St. Lawrence Co., with the triangulation. Here I obtained angular measurements and determined the variation of the needle (North 5° 59'.2 West from the true meridian). Trigonometrical measurements were also made, the weather being at this time remarkably favorable, the atmosphere pure and clear after recent showers.

The work of the party on Bog mountain was inspected and instructions issued relating to the location of boundaries of State lands in the township of Granshue. The same evening I reached Colton, on the way securing an hour's work at one of the monuments of the survey and the azimuth of line by solar transit.

Early on the morning of the 24th, as it was bright and clear, the true meridian was determined in the village of Colton, and from magnetic observations the declination of the needle was found to be 9° 29'.7 West of true north. The same morning I reached Potsdam and found at the express office instruments and apparatus for Mr. Crandall's survey party for which I had telegraphed to assistant Blake at Albany. The boxes and packages were immediately forwarded to Mr. Crandall, and the same night I returned to Albany again, wearied with work, to find no rest. The amount of correspondence that had accumulated during this brief absence was very large and required detailed instructions in answer. Tho work of the several survey parties in Clinton county, in Fulton county, in Hamilton county, in Herkimer county, in St. Lawrence and in Essex counties each called for special instructions of greater or of less length — each desired my personal presence — nay, considered it absolutely essential to a clearing up of the difficulties relating to the old boundaries which they were retracing.

As these dispatches were constantly arriving from the different sections, my personal presence at all of these points was not practicable, and the necessary instructions, made as explicit as possible, were forwarded in writing.

These office duties occupied my attention between August 25th and August 30th.

On September 1st, I left Albany to inspect the work of several of the parties, and to connect the same by triangulation with my preceding surveys in the interior. I took with me one assistant, and a theodolite, and solar transit and smaller instruments. A photographic camera was also carried, for the purpose of securing views to illustrate the character of the region surveyed.

At 3 A. M., September 2d, I reached Moose river clearing, three miles west of the camp of the survey party under Mr. Snell, engaged in retracing and locating the Herkimer county line.

I remained with this party until the completion of the line to the monument on the bounds of the county of Lewis, on September 4th, securing azimuth observations, and testing sections of the line by transit.

On September 5th, I closed up the work of the party and paid off the men, reaching Boonville the next evening.

The results of the work of this party will be found in the detailed report on the location of the boundary line of the county of Herkimer.

On September 7th, I proceeded by team to Gommer Hill, Lewis county, and gave instructions to the signalmen, in regard to the reconstruction of the signal at this station upon which the determination of the geographical position of the boundary line of the counties of Herkimer and Lewis would depend.

On September 8th I proceeded to the Adirondack Survey signal station of St. Lawrence at the Indian village of St. Regis, to measure angles therefrom to hills at the southward near DeBar mountain, in the county of Franklin, where many sections of State land were located, which were to be connected by triangulation with the stations in the interior southward. September 9th was Sunday.

On Monday morning the twenty-inch Oerthling theodolite was set up, shielded (as was necessary) against temperature, by a light frame observatory, and the clearing away of "haze" or "smoke" in the atmosphere which prevented observation was awaited.

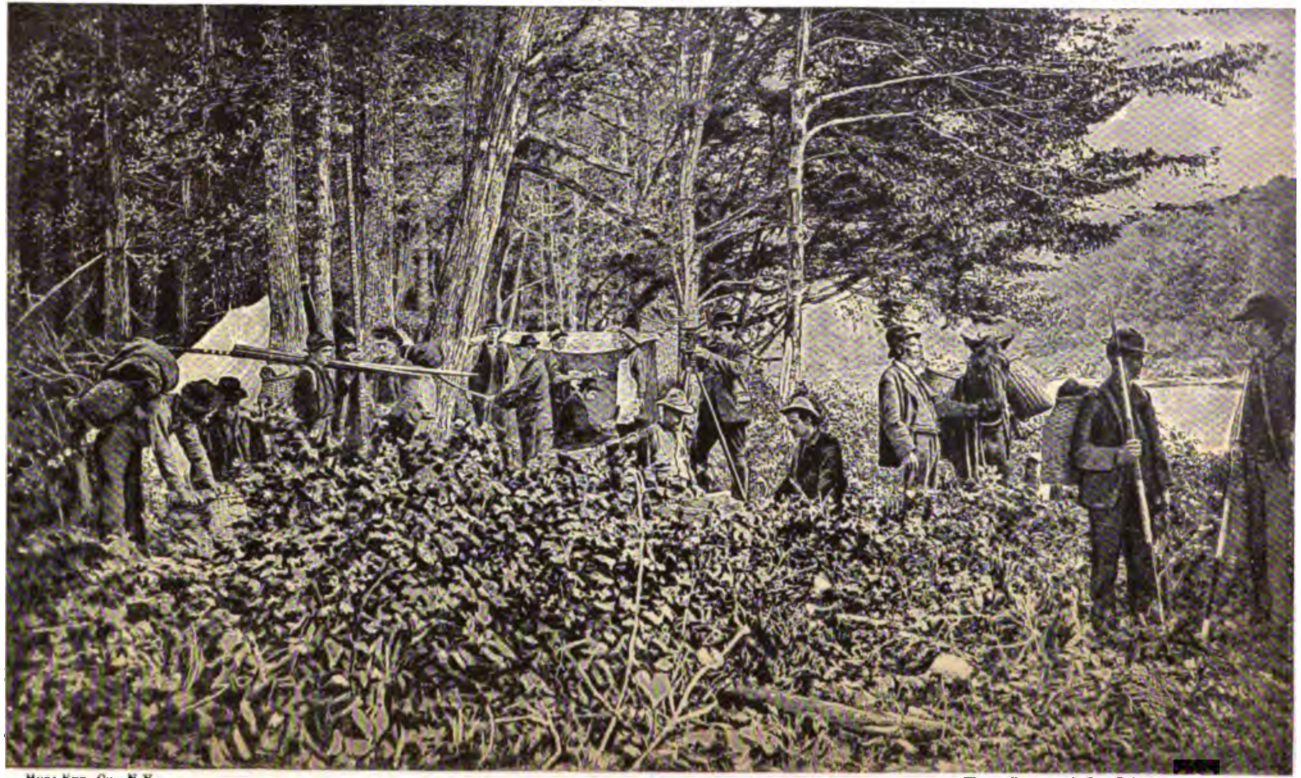
The smokiness of the atmosphere continued several days, so that nothing but the dim outline of the hills could be seen. During this time a meridian line was determined and the true azimuth of referring marks in the vicinity of St. Regis determined in readiness for use when the clear weather should come.

During this time also magnetic observations were taken, which, when compared with the true meridian, gave the mean declination of the needle at N. 10° 31′.2 West, in Latitude 44° 59′ 45″ Longitude 74°39′ 23″ west of Greenwich.

NEW YORK STATE LAND SURVEY.

VERPLANCK COLVIN,

PLATE No. 2. *Superintendent.* REPORT 1884



Moss Eng. Co., N.Y.

Weed, Parsons & Co., Printers, Albany, N.Y.

SURVEY PARTY

ENGAGED ON LOCATION OF COUNTY LINE BETWEEN HERKIMER AND ONEIDA COUNTIES, MOVING FROM CAMP ON THE BANKS OF MOOSE RIVER.

The smokiness of the atmosphere was daily more dense and but few sightings could be obtained to the signals. It became probable that no clear weather would be had until after heavy rains had purified and washed the atmosphere.

Although anxious to take the observations personally at this station the large number of parties in the field, and the difficulty of corresponding with them and caring for them while at inaccessible locations in the forest which I had yet to visit, made me loth to use any more time at this station. I, therefore, placed assistant S. J. Farnsworth in charge of the station and instruments, with instructions to watch for clear weather and observe and repeat angular measurements upon signals in accordance with such directions as he should receive from me from time to time. His life-long labors in engineering and surveying in the county of St. Lawrence gave him great familiarity with the local features of the northern section. He was, therefore, specially available for this work.

Mr. Farnsworth arrived on the evening of September 13th, and on the 14th was placed in charge of the station. The smokiness or haze continued, and it was finally decided that, to avoid unnecessary expense, the work at this station should be discontinued until storms had cleared the atmosphere, Mr. Farnsworth remaining within a few miles of the station, ready to occupy it when the clear weather came.

This signal, however, is so near the banks of the river St. Lawrence that the best portion of the day for observation, *i. e.* the hour following sunrise, is not available on account of frequent dense fogs which hang over the low-lands until the heat of the sun is sufficient to dissipate them. When the air becomes heated to this extent, irregular horizontal refraction sets in and accurate measurements are not possible until within an hour or so of sunset. It was evident that patience and perseverance would alone obtain the sightings that were needed from this station.

One feature of our experiences, as giving some idea of the remnants of the Indian race still inhabiting this locality, it seems to me should be given to history. It is to be regretted that the character of this work and the haste with which this report has to be prepared alike prevent any general account of the present condition of this group of the ancient inhabitants.

When this station was first reached, in December, 1882, and the measurements were made by which the triangulation of the Adirondack Survey at length told the distance across the wilderness, from the waters of the Hudson to the shores of the great river St. Lawrence, the Indians of the reservation were mostly absent — some in the "lumber woods," and some in their winter habitations further south. Now a great number of them were at their homes upon the reservation, and we were able to form some opinion of them.

This reservation, they claimed, had never been held by others than Indians. They were the Iroquois — the famous six nations whose name had once spread terror from the capes of Florida to the frontiers of Canada, the dominion of their inveterate foes, the Algonquins. It is impossible to restrain interest in this remnant of a tribe once so powerful, and who claim still to be an independent nation in treaty, since the revolution, with the Commonwealth of New York.

This little republic is governed by three chiefs who have "power over land, water, and forest," the nation being otherwise a commune in which he who clears and improves a farm owns it, and he who leaves and neglects it is liable to forfeit it to the first Indian who may choose to take possession. The tribe numbered at the last State census seven hundred and thirty-seven souls, resident upon an area of twenty-four thousand acres at the mouth of the Raquette and St. Regis rivers. They dress like the whites of their own degree of fortune. They possess valuable farms, and horses and carriages, and, if a knowledge of languages be education, many of them may be said to be far advanced, knowing, in addition to the Indian tongue, both French and English. These remarks apply to those resident on the American side of the boundary line.

The imaginary line which here at the forty-fifth parallel separates English from American territory, seems, on the Canadian side, to carry with it burdens that have kept the Indians of that Province behind their American brothers. Intoxicating drink is still the bane of their existence, but it is proper to say that the Indian chiefs, and the American and Canadian officials are vigilant to prevent the introduction of liquor.

Before leaving St. Regis, I supervised reference measurements with steel tape connecting the signal station with the iron monuments on the United States boundary. The line from the signal station produced northward strikes the shores of the river St. Lawrence to the westward of the old stone church of the Canadian Indians on a true bearing of North 19° 05′ East, to boundary monument No. 772 (distant 708 $\frac{41}{100}$ feet), terminating at the steep clay bluff of the river bank, which at the water level is underlaid with large rough clay-stained boulders of the so-called glacial drift.

The old stone church (on the right in the view showing the termination of this line) is of great historical interest. In it was hung the historical bell of St. Regis, — now voiceless — once the sonorous souvenir of many wars. At the left in the view is seen a dug-out canoe made from a single log, and supplied with the ancient Iroquois sail — a bush. Many of these pirogues are in use by the Indians now upon the St. Lawrence, who cross the great river in them and fish from them. They are uniformly managed by paddles, after the ancient style.

On September 15th, I set out for Mt. Azure, near the foot of the sixteen mile level on the St. Regis river, thirty miles to the southward of the Indian Reservation, taking with me one portable theodolite and the solar transit, mountain barometer, etc. The large geodesic instruments I left in charge of Mr. Farnsworth, for the execution of his work at this station.

It was near midnight on the 15th, when exhausted with fatigue, after a ride of thirty-eight miles over heavy roads, we reached Phelp's at the foot of Mt. Azure.

Next day being clear, I ascended the mountain and reconnoitered the region from the signal station, with a view to extending the triangulation to the large tracts of State lands in the adjacent townships, to the eastward. Thousands of acres of valuable timber, *pine*, as well as spruce and hemlock, are located in the section between Mt. Azure and DeBar Mountain,and from these signal stations it was hoped that bisections could be had with transit upon points on the boundaries of these tracts. The signal station on Mt. Azure commands the entire upper valley of the St. Regis river, eastward as far as township 17 in great tract No. 1 of Macomb's purchase, and innumerable mountain tops adjacent to the boundaries of Townships 15, 18 and-20, which could be made use of as trigonometrical stations. The theodolite was placed upon its tripod and the angular observations commenced. More than thirty of the signal stations of the Adirondack Survey were visible; prominent among them Mt. Marcy, Mt. Whiteface, Mt. Algonquin, Mt. Iroquois, Mt. Emmons, Lyon mountain, DeBar mountain, St. Regis mountain, Bog mountain and Moosehead mountain, as well as the station St. Lawrence, at the mouth of the St. Regis river, which we had so recently occupied.

The solar transit was used upon the completion of the angular measurements with the theodolite, to obtain the azimuths of stations from observations of the sun. As all the township and lot lines in this district were originally located on magnetic needle courses, the immediate determination of the true meridian was of great importance. The declination of the needle was found to be 9°, 40'.0 west of true north.

The barometric observations, taken on the summit, make the height of Mt. Azure 2,582 feet above the sea. It forms one of the most elevated and prominent of the peaks in this part of the western border of the wilderness. Yet its altitude is small when compared with the high summits nearer Lake Champlain in Essex county, and being but one of a group of peaks, of nearly equal altitude (all densely forest covered), it owes its commanding value as a station for triangulation, more to its fortunate location than to its height.

The signal on Mt. Azure is a type of the class, built upon the mountain peaks from rough timber, and is strongly and substantially made, the framework being spiked together, the lattice work filling at the top sufficing to distinguish it, even in moderate haze, at distances of twenty to thirty miles. The point observed upon in measuring is the centre-pole; a straight vertical piece arising through the apex and carefully centred over the monument, thirty-five feet below, by transits set at right angles. In clear weather, fit for observations, such a pole is easily seen under high telescopic power at very long distances.

The photograph shows the solar transit elevated upon the high tripod within the signal. This high tripod was constructed by the signalmen from heavy spruce timbers, and was strongly braced. The dimensions of the signal on Mt. Azure may be understood from the height of the transit and of the two guides shown in the view (plate 7). The measurements were not completed at nightfall, although we remained late and descended the mountain in the dark. The negative, from which the plate was made, was taken after sunset and was of the class ordinarily given from one to four seconds exposure. In this case a full minute was given. The height measurements with barometer, made Phelps' Hotel 983 feet below the summit of Mt. Azure, or 1,599 feet above the sea, and barometrically 1,270 feet above North Lawrence on the Ogdensburgh and Lake Champlain railroad.

The degree of elevation of this district, and the moisture of the climate, are — if we may judge from the character of the forest — extremely favorable to the growth of the valuable evergreen trees. With the exception of the vast marshes, which from Mt. Azure are seen to extend over an area of thousands of acres, adjacent to the "sixteen mile level," on the upper St. Regis, the whole region between Duane in Franklin county, and the hills toward Cranberry lake, in St. Lawrence county, is covered with one vast forest of valuable timber.

September 17th, I reascended Mt. Azure and obtained additional angular measurements. The great obstacle to measurement was found to be the almost unbroken extent of wooded wilderness. Hardly a peak, in this section, could be discovered which was not densely forest covered; Mt. Azure, DeBar Mt., and St. Regis Mt., were the only exceptions in the vicinity. The signal stations which I had placed upon these points, now became doubly valuable, and were the only points with which the land surveys could be connected without greatly increased expense, and the cutting of many sight lines through the timber. This I resolved to avoid, as far as practicable, and, consequently, made the stations on DeBar and Azure the reference and connecting points for all the surveys in this section.

This work accomplished, I set out on foot on the morning of the 18th for the head waters of the St. Regis, for the purpose of personally inspecting the lands and timber, and to ascertain whether the lumbermen, who were now working far to the southward, were extending their cuttings to the State lands in Townships 14, 18 and 20. The baggage and heavy instruments were sent by way of Duane to await me at Chase's on Loon lake near the north branch of the Saranac.

A march of three miles through the forest brought us to the foot of the sixteen mile level; a picturesque stillwater which winds for miles through rich alluvial lands, now among alders and bushy swamps, and now through vast natural meadows; where the thrifty lumbermen had already cut and stacked the wild hay as feed for their teams during the coming winter. It was evident that in a few months the deer and bear; hitherto the sole inhabitants of the forest; would find their most remote fastnesses invaded.

A frightful feature of this lumber enterprise, is the proposed drowning of all these low-lands. A dam has been erected at the foot of the level, which will flow the entire basin, and will convert all the verdure and beauty of this valley to a sickening mass of gray mud and malarial slime. It is to be regretted that the State is not the owner of this beautiful valley. Its drowning and despoilment is the result of a mistaken policy of the State Government in granting subsidies to private corporations for the construction of dams and reservoirs, disguised under the title of an act for the "improvement" of a river, while really causing its despoilment. The water had been already raised and had been maintained at considerable height, between May and July last; and, although now lowered to its natural limits, the prolonged drowning had already given a sickly and yellow look to the foliage of both trees and bushes. painful to behold. Another season of drowning will complete the devastation.

Ascending the river, by boat, a journey of half a day, we landed where the water became swift and the banks of the stream precipitous, and climbing a gravelly, sandy ridge, marched eastward; over wild, desolate, burnt lands; once covered with valuable pine timber. Aspens and birch brush were replacing the ancient evergreens; but we soon entered a dense dark forest of most majestic white pine, which extended eastward nearly to Folensbee pond.

One of the results of this day's reconnaissance, was the discovery of an elevated place, free from timber, on the west line of Township 18 which would enable me to locate that line directly by triangulation. The site for the signal station was selected; but as the theodolite had been sent to Duane, immediate measurements could not be made.

At evening we reached St. Regis lake, and on the following day examined the lands between the St. Regis and the north branch of the Saranac, in Township 18 of Great Tract No. 1 of Macomb's purchase, and Township 10 in the Old Military Tract.

In township No. 18, north of Rainbow lake, the lumbering interest was found to be extremely active, although half the township belonged to the State. The northerly half of this and the south part of the adjacent township, contain much valuable pine and spruce timber. Of 17,000 acres in the north half of this township 4,000 acres are held by lumbermen in semi-partnership with the State. These men said, very emphatically, that they intended to cut upon such partnership lands and remove the timber, and desired me to notify the Attorney-General and the Comptroller of their proposed action. They claimed that an undivided interest in these timbered lands having fallen to the State by the non-payment of taxes by part owners, the failure of the State to divide the property or to sufficiently care for these lands was ruinous to them, and that they were compelled to cut timber and realize thereon in order to meet their individual assessments.

This was but one of numerous cases in which the State has, by the extraordinary nature of the tax laws, brought itself into copartnership with various lumbering companies. The lands in such cases are among the most valuable in the forest, and it is very apparent that some modification of the tax laws is necessary to avoid such cases in the future; and that some legislation should be had at once to meet these extraordinary conditions.

Township 18 is a valuable tract, as it contains many excellent sites for summer residences, and is accessible by good and easy roads, both from the Ogdensburgh and Lake Champlain Rail Road, and from the Au Sable branch of the New York and Canada road. The St. Regis lakes, "Paul Smith's" Rainbow lake, Mountain pond, Osgood pond, etc., etc., are all located in this township; and the beauty and value of these localities are sufficiently known, to render further comment, on the great value of State lands in the vicinity unnecessary. The examination of these lands was accompanied by a rapid survey reconnaissance; the topography of the lakes and mountains being sketched, and approximate heights taken by barometer.

The value of all land depends so much upon climate, and climate is so greatly affected by altitude that, I cannot but believe, the measurement of heights to be a matter of the greatest practical importance; inasmuch as we may, by a comparison of altitudes and the geographical latitude of lands in any country whose general character is known, be able to tell very closely what such lands will produce and what they are worth.

St. Regis lake by my measurements, has a height of 1,623 feet above the sea, and Osgood pond 1,659 feet. Jones pond outlets into and has about the same elevation as Osgood; but as we go eastward a slight increase of altitude is met with; the divides reaching about 1,700 feet at Rainbow lake and nearly 1,800 feet at Loon lake. The height of the St. Regis lakes, being based upon exact measurements with level and rod, from tide in the Hudson, is as exact as can be obtained. The means at command on the Adirondack Survey, have not been sufficient to extend the line of levels as far eastward as Loon lake. It is very desirable that the height above tide, of all of the principal lakes, in these chains, should be determined, as they occupy the depressions or "water-gaps" of the mountains, and form the keys to the country.

At Loon lake on Sept. 19th I received telegraphic despatches, which rendered it necessary that I should proceed to Clinton county at once, to arrange for the continuance of the survey of the State lands in that section, and at 8 P. M. on the evening of the 20th, after an exhausting journey under a hot sun, I reached Chateaugay Lake. The survey of Township No. 5, and the location of the prison lands, are hereafter given at sufficient length to explain the work done in this section.

September 21st found me at the camp of assistant Averill's survey party on Indian Point, on the west shore of this lake. A consultation was held in which Mr. Averill laid before me the difficulties he had encountered, and a plan was arranged for the completion of the work. During the afternoon of this day I examined the old marked trees on the boundaries of Township No. 5, and visited the south west corner of the township where the ancient line trees and corner marks on the wood made by the first compass surveyors were found and identified.

This corner is hard to reach being located in a marsh, which owing to high water, would be impassable for measurements until frozen solid.

The manner in which these measurements were finally made, and the corner monumented, will be found in the detailed statement of work in Clinton County.

Almost all the lands seen to the eastward from the west shore of Chazy lake are the property of the State. The signal stations of Lyon Mountain and Birch Hill, which command the greater portion of this district, are shown at the left in the accompanying sketch of Chateaugay Lake, to the southeastward. To the south west, in the same sketch, are the mountain ranges that form the divide between the sources of the Chateaugay river and the north branch of the Saranac. The distant fish-hawk at the right hand in the view hovers in line with the direction of the south west corner of Township No. 5, and nearly below the bird is Indian Point, the location at this time of the camp of the survey party.

Chateaugay Lake is still enclosed by the wild forest, but few clearings having as yet been made upon its banks. It is a beautiful crystalline sheet of water shut in by rocky shores, and, although now very accessible, is still a choice resort for huntsmen and fishermen, who find both trout and deer in sufficient abundance

At evening on the 21st I returned with assistant Averill by boat across the lake to Ralph's, on the east shore, and settled upon a plan for the extension of his work to the other corners of the township.

The records carried with me showed that there were State lands in Franklin County, near Ragged lake, which were accessible by trail from the camp of the survey party on Indian point. Despatches received from other survey parties rendered it important that I should be in Albany that very night, but, being desirous of learning the condition of the forest on the lands in that portion of Franklin county from personal inspection, (inasmuch as it had been claimed that the forest thereon had been destroyed by fire and that the lands were worthless;) I resolved to make a rapid march through the woods, inspect them, and return with all possible rapidity, so that with the aid of boat and team I might reach the afternoon train for Albany from Plattsburgh.

Morning, of September 22d found the lake covered with a dense fog, which somewhat delayed our guide in steering his way across the water. At 7:54 A. M., we left Chateaugay lake, the trail ascending gradually through open timber, crossing the transit line of assistant Averill's survey party about three-fourths of a mile from the lake. Entering only one small clearing, the trail ascended continuously, though almost imperceptibly, for over four miles, when Mountain pond was reached. This is a small sheet of water outleting to Chateaugay, being 540 feet above Chateaugay lake by aneroid. After a march of two hours from Indian point we reached the end of the long ascent from Chateaugay lake, and beheld before us an abrupt slope down which the trail went steeply. Through the dense forest the shining surface of a large body of water was perceptible. A descent of 400 feet brought us at length to the sandy shores and shallow waters of Ragged lake. Here a clumsy, weather-beaten skiff was found, which was with difficulty launched, but proved leaky and worthless.

The solar transit was set up and observations of the sun taken to determine the meridian and from the magnetic observation the variation of the needle in this locality, was found to be North 14° 59′.2 West. The observations were interrupted by the discovery of an embryo forest fire in the woods near by, the result of some hunter's carelessness. Water carried from the lake in hats and tin cups extinguished it before it had got into the timber.

The shores of Ragged Lake are densely covered by woods, to a large extent consisting of valuable timber. The photograph shows the character of the forest, which is still dense and wild and inhabited by large game, both deer and bear. The State lands near Ragged lake are fine wood lots; and I could not see or learn that they had ever been touched by a lumberman's axe or by fire. The observations having been made we set out upon our return and reached Chateaugay lake in two hours, where leaving the survey party at their camp, I crossed the lake in time to take the steamer to Bellmont and the train for Albany; where I arrived at 2 A. M. next morning.

Between September 25th and October 18th, office work kept me busily engaged at the Capitol. The field-work of several of the survey parties was now closing, and the accounts and vouchers covering many thousand dollars in small items, had to be examined, settled and audited. The men were paid off as rapidly as the chiefs of the several parties completed their accounts.

The middle of October found six survey parties still in the field: one in Clinton county, two in Essex county, two in Hamilton county and one in Franklin county.

In Clinton county assistant Averill was continuing the measurements along the bounds of township 5, and the adjacent tracts. In Essex county, assistant Blake was connecting and tying together by triangulation, the surveys of the blocks of State lands in the central and northern portion of that county, and Mr. G. L. Locke with another party was tracing the boundaries of lots in the Old Military tract, immediately adjacent to the north line of Totten and Crossfield's purchase. In the southern portion of Hamilton county, assistant Francisco was tracing out and settling the bounds of State lands in Palmer's purchase, near which lumbering operations were in active operation. In the central portions of Hamilton county assistant Koetteritz had charge of a special section of triangulation, designed to connect the work in the south-western division with the Adirondack Survey triangle sides so as to unite the detached surveys. In Franklin county and St. Lawrence, other surveys were also in progress.

The direction of these survey parties and the paying off of the men and settlement of the accounts kept me constantly engaged, and with the limited means at command required the strictest attention to secure the needed results within the limits of the appropriation. Frequently large amounts were required to meet the running expenses of the parties, and, as these occasions admitted of no delay, the work could only be maintained by recourse to my private funds. The number of parties in the field and the vast area covered — through ten of the largest counties of the State — with the innumerable difficulties incident to operating in a wilderness region, off from trails, made the aggregate cost of the work cover the entire appropriation, leaving no portion for the salary of the Superintendent, who—inasmuch as the appropriations for the Adirondack Survey had been still more limited — had the honor to conduct both these Surveys during the present season without any compensation whatever.

The superintendent had hoped that with the close of October all the field work would be completed, but the middle of that month had passed and a vast amount of both office and field work remained to be done.

It now became necessary, even at the hazard of some temporary inconvenience and discomfort to the detached survey parties, that the superintendent should again take the field to close up the triangulation in the North Eastern Division. Here in consequence of the severity of the weather assistant Averill was unwilling to risk his health at this season of the year by any prolonged exposure in tents upon the frosty mountain summits. No other officer of the survey was available for this work, all being busily engaged. Consequently, having arranged the office work as far as practicable, I proceeded to Plattsburgh, Clinton county, on the morning of October 19th — leaving one clerk in charge of the office; every other attache of the survey being in the field.

October 20th was passed in Plattsburgh closing up the first section of work in Clinton county and paying off the men. After much discussion I called upon assistant Averill for estimates of the cost of completing the monumenting and mapping of the survey of Township No. 5, with a view to making it a matter of contract. On Monday morning, October 22d, Mr. Averill submitted estimates in writing, which, after examination and some alterations, were made the specifications for the completion of the work in his division.

At 6.40 A. M. on the 22d inst., I proceeded by way of the Plattsburgh and Dannemora railroad to Rogersfield, Clinton county; on my way to my old signal station on the summit of Lyon Mountain, which, as we neared Chazy Lake could be seen from the train grizly with ice and snow upon the branches of the dwarf spruce trees on the summit. At Rogersfield, the famous Chateaugay Iron Mines are located, a broad band of solid, magnetic iron stretching for miles across the rugged gneissoid foot hills of Lyon Mountain. These beds or veins are of unknown depth and the purity of the ore makes them more valuable than mines of gold or silver. It was amazing to see the town which had grown up around the mines since 1878. As far as the eye could reach the valley was filled with log houses, railways above and below—hoisting machinery—engine houses and all the features of a large mining town were to be seen.

October 23d I succeeded in organizing a force of packmen and secured one pack horse to aid in transporting the instruments and baggage to the mountain top. Axemen had to be employed to clear logs from the trails now disused, but by nightfall I had pitched my tent upon the summit of the mountain, and made my arrangements so that letters and telegrams reached me from Rogersfield with promptness and the general management of the survey be continued

Under the head of Triangulation I have elsewhere given a detailed statement of the results of the work at this station. Snow and storm, sleet and fierce winter gales beat upon my tent and it was the 6th of November before the absolutely necessary angles connecting the detached Survey of the adjacent boundaries had been secured.

Deserted by my men, who refused longer to endure the cold and exposure, I had remained in camp alone upon the summit, and only descended to Rogersfield on the 6th when the the requisite measurements had been secured.

November 7th I proceeded to Plattsburgh, leaving Mr. Averill to complete the measurements across the head of Chateaugay Lake as soon as the ice became firm and on the 8th inst. reached Albany again, and resumed duty at the Capitol.

There was much requiring my attention. Two of the parties had not received my despatches notifying them of the location of my field head-quarters. Money, provisions, instruments and men were needed at various stations. By hard work, and many telegrams and letters, the anxiety of the assistants in charge of these parties was relieved and business brought back to its normal condition.

By November 21st all the Survey parties but one had closed their work for the season.

Assistant Farnsworth hindered by the fogs arising from the river St. Lawrence was unable to obtain all the angles desired at his station, but through the most severe experiences remained resolutely at the signal in a tent banked with snow and sheeted with ice until longer waiting was evidently fruitless and closed the field-work on the 19th of November.

This brief narrative is merely designed as an introduction to the detailed statement of the results of the field-work. It is not necessary to mention all the details of instructions given both orally and in writing to the assistant surveyors. The accompanying records will show what they were sent out to do, and the manner in which the work was performed.

GENERAL OBSERVATIONS.

Before entering upon the systematic discussion of the measurements, and the results of the work, a general statement of the character, location and value of the Public Lands, within the limits of this survey, will be proper.

In the first place, as the result of the inspection and Survey of the State Lands, as hereafter given in detail, it may be stated that they are equal, or superior in value, to the lands held by private parties, adjacent to the tracts held by the State.

The value of 500,000 acres of these public lands may be placed at an average of $2 per acre or not less than $1,000,000.

Applications have been made by lumbermen for the purchase from the State of large tracts at a price as high as $4 per acre. Large areas of these lands could now be sold at such a price.

The death of the spruce trees over a large extent of country has attracted attention to the rugged slopes of the mountains, dark with the dense growth of thrifty healthy evergreens. These trees reach, in this latitude, their best development between 1,500 and 2,000 feet above the sea. The sides of distant blue ranges of mountains, hithereto considered practically inaccessible, are now found to be the only source of supply, and by "slide-ways," or "dry-sluices," timber can be sent down to the valleys, from these mountain slopes, from a height of nearly half a mile, vertically above the sea. The construction of narrow gauge railroads into the forest has been commenced and, timbered lands along the routes of such roads are held at an increased valuation. Thus lands heretofore deemed inaccessible, are suddenly made of great commercial importance; and the property that cannot be disposed of to-day, may be eagerly sought to-morrow.

Aside from the ordinary commercial aspect these lands have, in many places, an intrinsic value from the beauty of their location, and the picturesqueness of their lake and mountain scenery for which the Adirondack region has become famous. It may be asserted, without danger of contradiction, that every accessible lake, and every bay, point thereon, or headland or reach of picturesque river, where fish and game abound, has its cash value as a site for some woodland villa, cottage or "camp." There are thousands of such sites, surpassingly beautiful, now in the possession of the State; they are eagerly sought and would be quickly purchased, could they, under the existing laws, be offered for sale.

The sentiment of the people of this State, is evidently against the further sale of these State lands. The destruction of the forests; the disenchantment of the lake shores by settlements; the defilement of the pure waters by sewage; the reduction of this wonderful region to an arid waste by fires, has been generally and wisely opposed, throughout the State, by all classes of citizens.

Yet, few have any idea, of the actual value of the State's possessions, or the exact location of the State lands.

The beauty of Raquette Lake has been sung by poets; and the charm of its clustering islands, bright gleaming bays, and jutting points are now famous throughout the land yet, few know that out of the thousands of acres of dense forest, which reach from its shores to the encircling mountains, only here and there a point, (now built upon,) has private owners, and that all the rest is public domain. So also northward along the banks of Long Lake or Incapacho; passing from the Raquette river into Franklin county we find nearly all of the beautiful Saranac Lakes in the possession of the State, and that wild and densely forested area, covering the Fish Creek waters on the Upper Saranac,—choice ground for hunter, fisherman or naturalist —is entirely upon the public domain.

Leaving these great tracts, further northward stretches that wonderfully picturesque country, between the St. Regis Lakes at Paul Smith's, and Meacham Lake, De Bar Mountain, Deer River and Duane, covered with thousands upon thousands of acres, to which the State has now perfected title.

This section of State land is almost entirely forest and reaches northward to the very borders of the wilderness. Eastward of it, the State lands (thousands of acres,) extend in scattered blocks and lots to Rainbow Lake, Round Lake, Loon Lake, Plumador Pond, Wolf Lake, Ragged Lake and into Clinton County at Chazy Lake, where, one block of ten thousand acres, forms the most valuable possession of the State in that district.

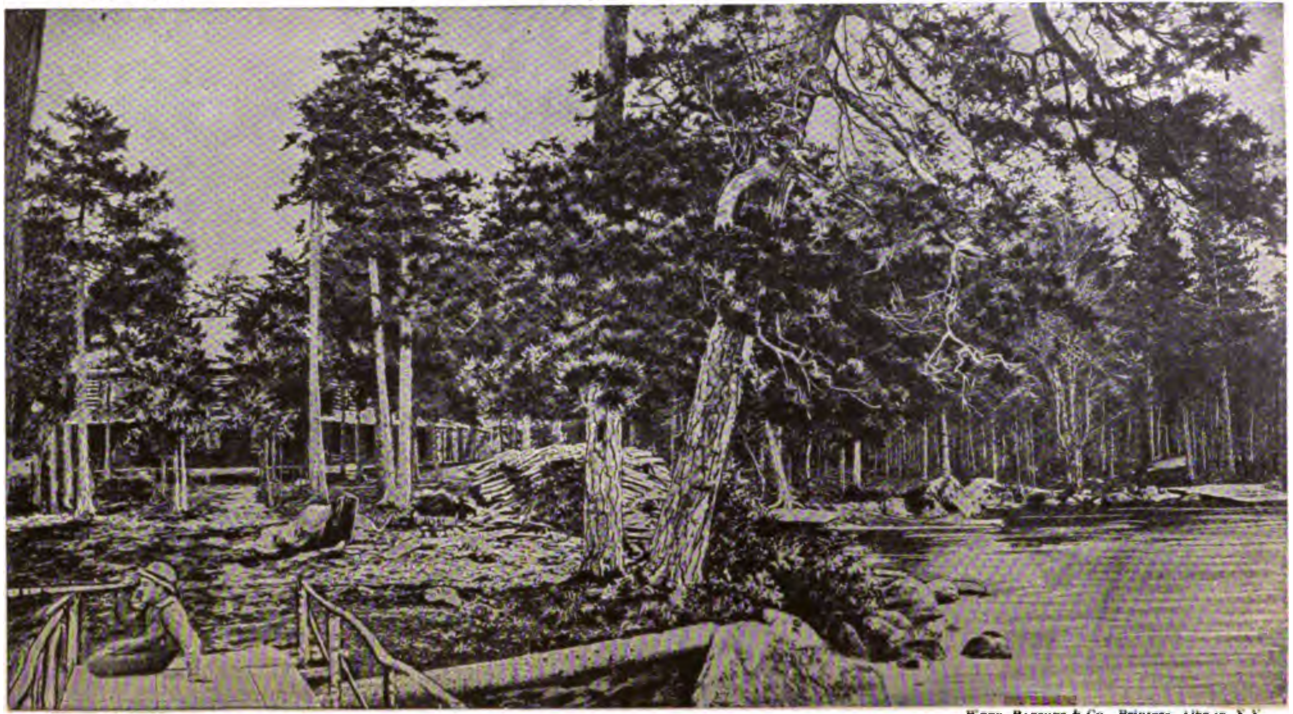
Scattered portions of State lands are found northward, almost to the Canadian boundary, and eastward nearly to Lake Champlain.

In Essex County, the State lands are situated, in the most interesting portions of that mountainous section. The dense forest, which covers the range of mountains between Lake Placid and the Saranac river, including Moose Lake and McKenzie Pond, Saddle Mountain and Sugarloaf Mt., stretches northward of Mt. St. Armand to the borders of Clinton County. Southward from Lake Placid this tract of State land reaches (with scattering lots of private land included) ten miles away to the source of Chub river, and Moose Pond, where the waters descend to Cold river and the Raquette; covering nearly the whole of the high mountain range, west of the trail from North Elba to the Indian Pass. This is all dense forest, and is the region famed as the location of the rich vein of silver discovered and lost by the old woodsman Scott, forty years since.

NEW YORK STATE LAND SURVEY.

VERPLANCK COLVIN,

PLATE No. 3. *Superintendent.* REPORT 1884



Moss Eng. Co., N.Y.

Weed, Parsons & Co., Printers, Albany, N.Y.

SHORE OF RAQUETTE LAKE.

VIEW FROM STEAMBOAT LANDING AT KENWILL'S. SHOWING CHARACTER OF LANDS RECENTLY SOLD BY THE STATE.

Eastward and southward from Lake Placid, tracts of State land upon the mountains in Keene were discovered heavily timbered. Valuable spruce and cedar timber was found upon the tracts surveyed and monumented this season lying between Mount Marcy and Sable Mountain, and near the Edmund's Ponds or Cascade lakes.

Eastward of Keene Valley a large portion of the Giant Mountain range is enclosed within the limits of the State lands, and separate tracts extend as far eastward as lot 113 in Chesterfield, near Peru bay on Lake Champlain.

Returning to the County of Hamilton, southward from Raquette Lake, the State possesses thousands of acres of heavily timbered land in Township No 6, adjacent to Shed Lake and Lake Fonda. Further southward, in townships 3, 8, and 32 enormous tracts of the most valuable spruce timber are owned by the State; in township No 3 almost enclosing the beautiful Cedar Lakes, and covering nearly all the valuable timber near Lewey Lake and along the Blue ridge. In township No 38, the forest, upon the lowlands along the Indian river below Lewey Lake, forms the drowned lands, or basin of the Indian Lake reservoir. Here all the trees have been destroyed by the artificial raising of the water, for the purposes of the reservoir; and a broad waste of fluid, ink-like mud and dead and decaying timber—now, at low water, replaces the once unbroken forest. This tract of State land, extends two miles northward of Indian Lake, to the south line of Township No 33 and includes valuable property.

Examining the character of the State lands still further to the southward, at Tacolago Lake, Echo Lake, great Round Lake, and Lake Pleasant (the county seat of Hamilton county) State lands were found in every direction, and generally densely covered with forest. Both branches of the Sacondaga river are hemmed in by the public lands; valuable tracts of timber existing in Townships No. 1 and 10, and Palmer's purchase; while in Bergain's purchase, a large tract of State forest exist. Here it is claimed that trespass has been committed upon one lot, to the extent, of $30,000, by men ostensibly cutting timber on adjacent property. This matter is now in the hands of the Attorney General, and an action has been commenced against the trespassers, and will soon be brought to trial.

Westward of the Sacondaga river, is the Benson Township, the district, now famous for its "gold mines," a rolling, mountainous forest region. The State lands are of great extent, reaching, in irregular tracts, from Wellstown to Arietta, with occasional strips of intervening private lands. In the Oxbow tract the State has less land than in the adjoining patents; but in the Lawrence Tract and in the wild forests of Artherborough are large areas of public lands, covered with superb timber which deserve immediate attention to preserve them from the same system of plundering, which has despoiled valuable lots in the neighboring County of Herkimer.

But it is unnecessary to refer to every tract of State land. Valuable tracts are owned by the State in hundreds of localities as interesting as the more famous places mentioned.

The general elevation of these lands is between 1,200 and 2,300 feet above the sea; the mean altitude of the valuable forest lands being about 1,700 feet. There is no true soil upon the mountain sides; nothing but gneissiod rock, covered with boulders, overlaid with (humus, woody-peat or "spruce duff,") the decayed remnants of the forest, that have accumulated during ages.

To give those, who are unacquainted with the region, an idea of its character, I extract the following description from my report to the Legislature in 1879, on the progress of the Adirondack Survey: (Seventh Report p. 65)

"The vast Adirondack region contains the only great State forests now remaining as a public domain within New York.

At the close of the American revolution, the Crown lands of Great Britain, confiscated by the provisional government, became the property of the State.

The Indian frontier warfare had made this region a dark and bloody ground. From its shades burst those savage incursions which filled the valleys of the Mohawk and the upper Hudson with death and desolation.

When peace returned to an exhausted land, the fair, rich plains of the west began to open before the settler, and the wilds which descended to the valley of the Mohawk and guarded the future pathway westward to the Indies, were for the time forgotten.

The new government of New York was impoverished, and endeavored to relieve itself by the sale of these wild, northern lands. Too poor at that time to make proper and perfect measurements, it sold vast tracts by the old Colonial Surveys, made in the rudest manner with magnetic compass, just prior to the revolution; surveys — which have now served for more than a century as the boundaries between estates and limits of counties — marked only on crumbling trees.

In 1772, in the Colony of New York, the first surveys were made of Totten and Crossfield's purchase in the heart of this strange region, whose pure waters and vast forests have been fortunately preserved to play so great a part in the future prosperity and happiness of the State.

More than a century has passed away and the wild forest still covers these most ancient mountains. Carved by the glaciers or the icebergs of the drift period from the most ancient granite of the world's formation; washed and eroded by the storms of a thousand centuries, the Adirondack ranges rise in dark and gloomy billows, stretching from the hills which skirt the Mohawk away northward to the shores of the river, from which this most ancient rock takes the term Laurentian.

Elsewhere are mountains more stupendous, more icy and more drear, but none look down upon a grander landscape in rich autumn time; more brightly gemmed or jeweled with innumerable lakes, or crystal pools, or wild with savage chasms, or dread passes; none show a denser or more vast appearance of primeval forest stretching over range on range to the far horizon, where the sea of mountains fades away into a dim, vaporous uncertainty.

A region of mystery, over which none can gaze without a strange thrill of interest and of wonder at what may be hidden in that vast area of forest, covering all things with its deep repose. It is not the deer of which we think, treading the deep rich moss among the stately tamaracks; nor the bear, luxuriating in the berry patches on the mountain side; nor the panther nor the wolf in their lonely and desolate wilds, seeking their feast of blood: we gaze downward from the mountain height on thousands upon thousands of square miles of wilderness, which was always one — since forest it became — and which hides to-day, as it has hidden for so many ages, the secrets of form, and soil, and rock, and history. It is upon this that we ponder. Huge are these almost undecipherable pages of the world's annals; enormous and difficult to read; yet there are marks and traces here and there which tell in a brief, irregular and fragmentary way — to those able to decipher such inscriptions — the prehistoric growth of continents; the origin of rivers; the spread of vegetable and animal life and the approach of man."

DETAILS OF MEASUREMENTS.

(SECTION I.)

JERSEYFIELD PATENT.

(Grant to Henry Glen and others 1768–69.)

North Boundary

FULTON, HAMILTON AND HERKIMER COUNTIES.

The different sections of State and private lands, in those portions of the Counties of Fulton, Hamilton and Herkimer, which are located on or near the North line of the Jerseyfield patent, were originally surveyed at a very early period, and their boundaries have always been involved in doubt owing to some defect or uncertainty in the old surveys.

Private parties, the owners of lands adjacent to those of the State, at various times attempted the settlement of these disputed boundaries, and incurred large expenditures in their attempts to find which were their own, and which the State lands.

The existence of a heavy penalty for the cutting of any timber upon State lands; twenty-five dollars for each tree cut or destroyed; made a knowledge of the location of the real boundaries a matter of importance, to all careful and conscientious men. Regular lumbermen, also, carrying on a large business, found it inconvenient and dangerous to deal in lands whose boundaries were so uncertain, and where profitable cutting of timber upon what they deemed their own lands, might be followed by costly litigation with the State authorities; and still more costly, or even ruinous, interruption of business.

Here, as elsewhere, the uncertainty of the boundaries interfered with accurate assessments and the collection of taxes; and the uncertainty of ownership was the opportunity of timber thieves.

An organized system of timber depredation was the result of this condition of affairs; and notwithstanding all the efforts of the Comptroller and the District Attorney of Herkimer County, the plunderers of the public lands escaped punishment to a great extent for lack of proof that the timber stolen was really taken from the State lands.

I had been desired by the Comptroller to give this matter my attention, as of the first importance. At the same time, I received from the Hon. A. B. Steele, District Attorney of Herkimer county, a detailed statement of the difficulties which he had experienced in endeavoring to prosecute parties cutting timber on, and removing the same from State lands.

After mentioning various cases in which he met with great difficulty in securing the punishment of trespassers owing to uncertainty as to the real boundaries, the District Attorney says:

"It was found that all lines had been obliterated by felling and "removing all blazed trees and other marks." He states that nothing can be done in many districts without special surveys. Even where lot lines could be found, trespassers obtained immunity by the intimidation of witnesses. Detectives were employed to watch in some localities, and witnesses were finally brought before the Grand Jury. He adds: "Some very peculiar circumstances were revealed; "such, for instance, as that the person testifying could not tell his "nearest neighbor three rods away while he was cutting on State "lands; could not tell his team; could not tell where a certain lot "was, although he knew every other lot in the town, and many other "things equally as absurd. This much was revealed. When a man "desires to get timber from State lands he will send some one ahead "to cut every blazed tree on the lines, then cut them up and remove "them to some distance, and so remove all evidence of lines. After "this is done they will send men to cut logs on some piece near "State lands, telling them to cut only to the blazed trees — but "there are none, as they have all been removed. In this manner "the entire State lands will be cut over. If a person informs upon "a trespasser neither his property nor his life is safe, so that persons "are very loth to tell what they know, and even upon secret investigations before a Grand Jury every conceivable evasion is resorted to."

Such a statement from the public prosecutor of the County, showed how great was the need of the settlement of the disputed boundaries, which formed the root of the difficulty.

Private owners were suffering equally with the State from the depredations of these lawless men, and were without redress; nor was any power lodged in their hands or in the hands of any county or State officer to settle, officially, the difficulty, save through substantial surveys; not *ex parte* in their nature, but impartially made by the superintendent of this survey in the line of his duty in compliance with the law.

The views of the Comptroller and of the District Attorney as to the urgency of the settlement of the disputed boundaries of the ancient land patents, in this section, were reinforced by the statements of the principal land owners and local surveyors.

In a conference held at the office of the superintendent in the Capitol, maps and plans were submitted showing the surveys which had been made at private expense, in the hope of settling the difficulties; and an amazing condition of affairs was revealed.

The local surveyors, in endeavoring to trace out the ancient lines, had found, not an absence of boundary lines, but an overabundance of them. Double systems of allotment within the patents were claimed to have been found.

The principal difficulty at first appeared to depend upon what was the true allotment of the east part of the Lawrence patent. This patent contains, exclusive of the Caldwell and Sickels tracts, 35,560 acres. It was surveyed for one Jonathan Lawrence in 1791 or 1792 and was based upon, or built up upon, the north line of the Jerseyfield patent.

This original survey of the boundaries of the Lawrence patent, appears to have been made by Isaac Vrooman, the same surveyor who laid out the Jerseyfield patent.

The Jerseyfield patent, originally granted to Henry Glen and others, was in its turn based upon the north boundary of the famous Royal Grant to Sir William Johnson, of which Governor Tryon, in a report made to the Earl of Dartmouth, "in obedience to the commands of the King" June 1774, says: "Two instances only occur "of Grants or Letters Patent for Lands under the Great Seal of "Great Britain — one to Sir Joseph Eyles * * and the other to "Sir William Johnston Baronet."

It is of historical interest that this Royal Grant was the gift, not of one but of two Kings; for the aboriginal title was from the great chief of the Six Nations, King Hendrick, and possibly the last grant of land made to the whites by that celebrated chieftain.*

The bearing of the north bounds of the Royal Grant was made the governing course, not only for the northerly line of the Jerseyfield patent, but for the intervening ranges of lots in Jerseyfield, and has been generally supposed to govern the lot lines in the Lawrence tract also.

The county line between Hamilton and Fulton counties depends for many miles upon this base for its direction; and the positions of all the several tracts, as far northward as the Moose River tract, in the county of Hamilton, are more or less dependent upon this ancient grant.

Before entering upon the discussion of the data, on which the survey work in this section was based, a brief account of the country is needed to render the work done intelligible.

The northwestern portion of the County of Fulton, twenty miles back from the Mohawk river, becomes quite elevated. The depressions are not great nor are the mountains very much higher than the valleys; but the whole section reaches the altitude of the average Adirondack interior. Valleys, are here found two thousand feet above the sea, while the mountain tops — or hills — are but two or three hundred feet higher. A dense forest; largely consisting of valuable evergreen timber; covers the mountains down to the very margin of beautiful lakes and trout streams, and wild game, deer and bear, are found even near the margins of the forest. To the eastward, in Hamilton County, in the neighboring township of Benson, is situated the gold mining district heretofore referred to.

It is its wealth of valuable timber, however, which makes the northern portion of the Jerseyfield patent so important, and has attracted toward it, and the adjacent Lawrence tract, so much attention. New rail-roads have been projected into this section, and proposals were being urgently pressed by capitalists, for the sale by the State of its timbered land in this section, when the passage of the law of 1883, forbidding the further sale of State lands by the Commissioners of the land office, stopped speculation; and the importance of husbanding the forests that protect the sources of the rivers from the influence of evaporation, engaged public consideration.

---

* King Hendrick greatly admired a gold laced coat belonging to the Baronet, and told Sir William that he dreamed that he gave it to him. The Baronet presented the Chief with the coat, but, in his turn, "dreamed" that this vast territory was granted him. The Chief gave him the land, and they dreamed no more.

Through the heart of this section, ran the boundary line between the counties of Fulton and Hamilton; which, further westward, became the boundary between Herkimer and Hamilton counties; and this line was the north line of the Jerseyfield patent, and, throughout its extent, was involved in the gravest doubt and uncertainty.

Upon this line as a base depended the lines of the State lots; not only of those lots immediately upon it, but of those which depended on distances chained, years since, north or south from this base line.

Records were found, which proved that the line had orginally been run with the magnetic compass and common chain. The line had never been monumented; the Colonial Surveyors merely marking the trees sighted to by the compass in the dense wild forest.

I was convinced after an examination of the ancient records and of witnesses from the locality — compass surveyors and those having a knowledge of the land lines — that it would be necessary to rerun this line with precision; measuring a traverse along it with transit and steel-tape, connected and located by triangulation.

Two nearly parallel marked lines were said to exist at the north easterly end of the Jerseyfield patent, each old and the marks in grown and covered by the bark of the trees.

Early in the investigation, Mr. Lorin Kelley, Surveyor, reported to me that he had inspected a line, crossing the large lake in the north part of the patent, known as Jerseyfield lake, and that he had retraced the line, both east and west, and found it to cross certain lakes and streams, in a manner resembling the description in the ancient records, of the portion of the north line of the patent supposed to extend through this section. He also reported finding some distance to the eastward of Jerseyfield lake, another line about a quarter of a mile north from the first line.

Further research proved, that this northernmost line was accepted by some local surveyors as the true north line of Jerseyfield.

There was also an impression, that possibly, neither of these lines was the true Jerseyfield line, and it was this feature of the case; the general uncertainty of the location of the north line of Jerseyfield; which induced the Comptroller to urge that I should give to its location special attention.

After carefully considering all the evidence that could be obtained relative to this line, I found myself possessed of the following information:

(1.) That the West line of the Jerseyfield patent could not be questioned, being the West Canada creek, called by the Indians in 1768 the Teioga river.

(2.) That Isaac Vrooman on July 16th 1768 commenced the survey of Jerseyfield at the north-east corner of the Royal Grant, and traced the line westward to the said West Canada creek, to a point which I identified as being a short distance below the present village of Grant in Herkimer County.

(3.) That the distance recorded by him on this line was 23 miles 7 chains and 33 links (1847.33 chains or 121,923$\frac{78}{100}$ feet) and the magnetic bearing of the line South 58° East.

(4.) That a traverse up the East bank of the West Canada creek was made by Vrooman and shown upon his map of the patent; which gives the points where brooks were crossed or islands met with in the river etc. and that at the "head of a large island," he commenced to run the north line of Jerseyfield on a magnetic bearing of S. 58° E., intending it to be parallel with the north line of the Royal Grant, and of a length equal to the south line of the Jerseyfield patent.

Vrooman was accompanied by six Indians representatives or commissioners on behalf of their tribe, "the Canajoharry Castle;" and he states in his journal: (July 23d, 1768) "We camt friday night at "the mouth of a Beaver dam. Saturday morning the Indians told "me I was opposite of the northern most of the three small lakes. "I went to the lake with three Indians and three white men and "ran from the Northern end of said lake N. 58° W. 6 miles and one "chain to the Canada or Tioga Brook, and struck the same just above "the upper end of the large island.

"Sunday.

"Monday we went the same line back again from the upper end "of the island S. 58° E.," &c. &c.

"At 6 miles 1 chain to the first small lake where we camped "Monday night." * * * * * * * *

"At 8 miles 32 chains to the second lake." * * * *

"At 9 miles 58 chains to the third lake." * * * *

"At 19 miles 30 chains to a small lake." * * * *

"At 22 miles 51 chains to the top of a steep rocky hill."

"At 23 miles 7 chains & 33 links, down the hill to about the "middle of another small lake of about 20 chains over. I made the "corner by running at right angles where there is another small lake "near adjoining on the north of about the same bigness."

* * * *

Here we perceive the value of topographical notes; for his mention of the distances at which he reached these lakes, gives a chain of unmistakable natural land marks; lakes, whose rock bound shores form unalterable monuments.

It was now possible to form a plan for the identification and restoration of this ancient boundary line, in such manner that the re-survey would carry with it the logical evidence of its correctness.

Believing that the "island" in the West Canada creek mentioned by Vrooman could be identified and made the initial point of the new survey, I determined to make search for it, presuming that the original marked trees would be found in the forest on the river bank.

As the retracing of so ancient a line would call for great experience in woods-craft; for such ancient marks are frequently entirely invisible to untrained eyes; and wishing also to have whatever line was established fortified by every precaution and the testimony of all the old experts in forest surveying, I selected two men, whose life long experience in forest surveying made them authorities upon such lines, sending with them a competent corps of chainmen, flagmen and axemen to execute the work. These men were Mr. S. H. Snell and Griffith Jones. The former has been engaged on surveys, in Totten and Crossfield and Macomb's purchase, since 1830, having been in survey work in every portion of the wilderness and also on the original surveys of the Sackets Harbor Railroad and other engineering works in the wilderness. Mr. Jones had personal knowledge of some of the lines of the interior allotment of the Jerseyfield patent, and was acquainted with the amount of allowance that should be made for the *change in the variation* of the needle in retracing lines of that period, from his own experience on the lines of the Royal Grant, and the De Witt and Matchin Tracts; which are adjacent to Jerseyfield on the west. His knowledge of old marked lines and of where side lines come in, forming lot corners on the main line, I believed would be of service.

With these gentlemen I associated Mr. J. B. Koetteritz, a civil engineer and surveyor of skill and experience, who, under appointment from the Comptroller, held the position of State land agent for the county of Herkimer. (While serving upon the State Land Survey, Mr. Koetteritz drew salarly only from this department.)

To Mr. Koetteritz was assigned the duty of inspecting and verifying the work of the two experts; and he was also charged with the reconnaissance for points on hills near the line, suitable for trigonometrical stations by which the line could be connected with the triangulation of the interior of the Adirondack region, executed during former years. He carried with him copies of the field notes of the ancient surveys, and had with him a hand level and a superior aneroid barometer for use in sketching the topography.

The measurements were entrusted to Mr. S. S. Snell with Mr. A. M. Mosscrop as his assistant, who, with three sturdy woodsmen to act as axemen and packmen in the forest, completed this party.

The portion of work on the north line of Jerseyfield now proposed to be done was in the first instance explorative. It was the duty of this party to make search and rediscover the line at its western end, where it was not so much in dispute.

As soon as the line was identified beyond all question, I directed Mr. Koetteritz to organize a transit party and make a rigidly exact traverse of it; connecting it by offset transit lines with signals to be be built on the nearest summits.

On June 27th the survey party rendezvoused upon the banks of the West Canada creek in the county of Herkimer near the south line of the town of Wilmurt, where the experts, after consultation, believed the line should be found.

The party included the superintendent of the survey, the two experts, the State land agent, the two chainmen and three axemen.

The banks of the West Canada creek, generally abrupt at this point, are upon the opposite eastern shore in the direction in which the survey was to be made, covered with dense forest. Here we discovered, to our alarm, the lumbermen had made great havoc. To our dismay, also, more than one island was discovered. Indeed for several miles, islands, both large and small, were found; the stream, dark and picturesque, flowing over a bed of water-worn boulders, around and among the devious channels, rendering exploration difficult.

At length a line of old marked trees was discovered upon the opposite side of the river; and, fording a rapid below the line, we proceeded to examine it. By one of the oldest inhabitants we were informed that this was the south line of Vrooman's patent: this, if true, would have made it the north line of Jerseyfield, of which we were in search.

The difficulty that now arose was that there was here no "island" at all, notwithstanding the statement of the ancient field notes that the point of departure of the line was from the "upper end of the large island."

An unbroken forest extended along a low shore of polished drift rock and bushes (alders, red willows and elder) skirting the stream; huge elms, water maples and yellow birches forming the interior forest. Entering the woods, the forest-flat was found to be wet, and evidently subject to overflow by freshets. At a distance of six chains back from the shore the bluff was encountered, and I had no difficulty in tracing the line by the ancient blazes upon the trees, although on the trunks of the gigantic, moss-grown "hard-woods" in the swamp, little more than a large oval spot, looking like mildew was discernible. The eyes of the aged experts did not require spectacles to identify these "mildews" as very old marks. One called attention to the vertical seam or suture separating the oval into two parts. The other detected upon the bark two smoothed surfaces which he identified as axe-marks more than a century ago. The difference was perceptible to the touch; the bark where it had been shaved by the axe remaining smoother than elsewhere on the body of the tree.

While all agreed that this was a very ancient survey line, more than a century old, the discrepancy in regard to the island disturbed us; no island being located at this point, except three low bush-covered gravel banks some distance down stream.

The supposition was made that in the lapse of a century, floods had eroded and destroyed the island that once existed here. This supposition I held ill-founded. The growth of timber on the banks of the stream was of an age which, when the condition of the river bed was studied, led me to believe that the small islands below had not extended up into the narrow channel opposite the line.

The wading of the river made the examination of the banks and islands uncomfortable work in a stream fed from mountain springs, from which the ice and snow had not yet all disappeared, and Mr. S. S. Snell, who was not only a good topographer and chainman but a professional ship carpenter, soon constructed, with the aid of the axemen, a light bateau in which he ferried the searchers across the water and greatly facilitated the work.

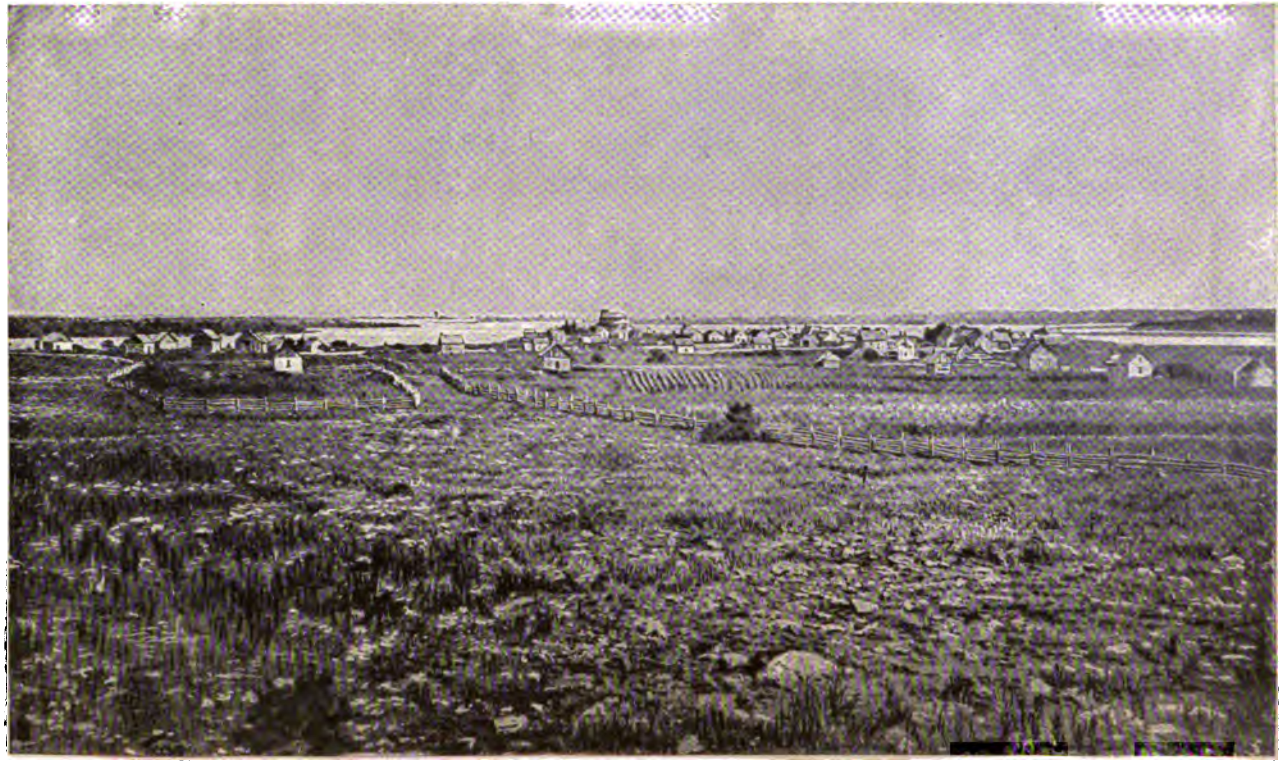
Search was instituted at the head of every island up and down stream for a considerable distance, and a new traverse of the stream made to compare with the ancient work, to find the corresponding angles and bends of the river that might be identified with the old survey notes.

Thus proceeding and directing the men, I followed the banks of the stream downwards from the old line into dense underbrush and came at length to a promontory projecting down stream, having a

NEW YORK STATE LAND SURVEY.

VERPLANCK COLVIN,

PLATE No. 4. *Superintendent.* REPORT 1884



Moss Eng. Co., N.Y.

Weed, Parsons & Co., Printers Albany, N.Y.

INDIAN VILLAGE OF ST. REGIS.

MOUTH OF THE ST. REGIS RIVER, SHOWING ITS JUNCTION WITH THE ST. LAWRENCE.

deep arm of the creek on either side. The point on which I now found myself was so much like an island that even the axemen, whose interest had become excited, exclaimed that possibly this promontory was the island sought.

Ascending the promontory nearly to the line again we managed to cross the inner arm of the stream, and found that a long, deep bayou extended between the bluff and promontory nearly up to the old line that we had found.

The ancient field notes were now brought forth and re-examined. The length of the island was found duly entered therein, together with the magnetic bearings of the lines as chained in 1768:

"S. 13° E. 11^{ch} 50^{l} the lower end of an island.

"S. 67° 30′ E. 42^{ch} under the bank and in the water.

"N. 88° E. 13^{ch} to the upper end of an island."

An allowance of four degrees being made for the change in the variation, the old stations were approximated and the retracing attempted. The bearings followed the shore, and led so remarkably under the steep bank and into the water that the men, much amused as well as very wet, agreed that there was no mistake about this portion of the line.

The problem was: how came the island converted into a promontory? Near the upper end of the bayou at the neck of the promontory was a deep bay into which two small streams ran. One of these small streams came down close under the bluff into this deep hole; the other, apparently formed by filtration from the creek, which ran at a higher level opposite the neck of the promontory, came in from the northwestward, *i. e.*, from the direction of the creek, along an irregular *sunken* channel of oozy moss-covered rocks, partly grown up to bushes and was overhung and shut in by the forest.

Here, I imagined that I saw the solution of the difficulty. This side channel had, a century since, been open and traversed by a branch of the creek. Subsequent floods had closed the mouth of the channel and it had grown up to brush. While this was plausible, it was annoying to find that the last compass course of the ancient traverse of the stream did not plat in accordance with the real location of this side channel.

The whole of June 28th was occupied by the search and owing to rain, those of the party who searched the forest for lines of marked trees, were as wet as those who waded the stream and searched the shores. By night every man was soaked with water, and cold and chilled; yet, notwithstanding every exertion, only the one old line could be found, though the forest, at the head of the islands above and below, was carefully searched.

To test the age of this line I directed the axemen to cut into the trees and take out blocks deep enough to reach the original marks. A number of trees, spruce, yellow birch and beech, were examined in this manner and gave the best proof yet obtained that this was the original line. The annual rings of growth were very distinct and could on each block, be counted back to the year 1768. So deep, however, had these marks been overgrown by the wood that often, after chopping five or six inches into the hard-wood trees, there would be no trace of even an outward leading suture or seam, and only when within one or two inches of the mark would any trace of the process of ingrowing be discernible.

The magnetic bearing of this line was between two and three degrees less than that recorded by Vrooman in his original survey, but this was only a proof of the accuracy of the line, as the direction of the change was in that of the known movement of the needle. It was remarkable that the change in the declination had been so small. What the absolute declination was, I was not able to determine on account of the continuance of the storm, which hid the stars at night and, during the day, gave us but one or two dim uncertain glimpses of the diffused sunlight between bursts of rain.

The morning of June 29th showing a continuance of the storm, and time pressing; (other surveys in other counties calling for my attention,) I ordered the line found to be retraced, scrupulously to whatever point it should come, directing it to be measured with a light steel chain divided into links—in accordance with the ancient system—so as to follow, as nearly as might be, the course of the old line; the greatest care, however, being taken to secure exact horizontal measurements. The initial point of the re-measurement was a massive granite boulder, which was drawn from the river bed by powerful horses chained to it; the horses having forded the river on the rapids below the line, and the stone being drawn along the river bank to the station. Another large stone intended as a reference monument, was drawn to and set on the opposite bank of the creek (here only one hundred and six feet wide,) and from this reference monument a line was run N. 27° 30′ E. 6 chains and 27 links ($413\frac{82}{100}$ feet), to a drill hole in a massive block of granite weighing between ten and twenty tons which was made the second reference monument.

This great rock is consequently to the north of the south line of the town of Wilmurt in Herkimer county, at the distance given, and stands back from the shore of the creek in the bank.

These reference marks are thus particularly described to facilitate the future finding of the initial point of this line. Commencing at the monument set on the west shore of the creek, the line was brushed out by the axemen to the top of the bluff, one-eighth of a mile distant, and rising 80 feet above the creek. Having set up the solar transit above the monument I waited long and anxiously and in vain for a glimpse of the sun in order to obtain the true bearing of the line and declination of the needle. The magnetic bearing here observed was S. 54° 35′ E., a decrease of 3° 25′ since 1768.

Having got the party started and sufficiently supplied with provisions, I gave the assistant in charge instructions to look carefully for the lakes mentioned by the original surveyors, and to send out a messenger to the nearest postoffice with reports of their progress, every few days, as I hoped to be able to rejoin them in a short time and inspect their work.

I had purposely refrained from sending surveyor Kelley with this party, inasmuch as he had expressed an opinion as to which of the two lines on the north bounds of Jerseyfield was the correct boundary, he assenting to my view that it would be better to send surveyors who had never traced this line, and obtain their independent conclusions as to which was the right one. While this party was engaged in retracing the line, I availed myself of Mr. Kelley's thorough knowledge of the region to aid me in selecting points proper to be occupied in the triangulation; and, under his direction, the signal station upon the elevated summit now known as Mt. Jerseyfield, was made ready. The peculiar advantage of this station consisted in its nearness to the north line of the Jerseyfield Patent. This summit being determined by triangulation and connected with the vast net-work of lines in the interior, could be tied, by a measured transit line, to the boundaries of the patent, and thus — ultimately — the results of the new survey of the Jerseyfield line be oriented and located.

It is not necessary to go over the daily work of these survey parties in detail. The results are shown upon the maps of their survey. The work under Messrs. Koetteritz, Snell and Jones, was carefully done, and the measurements and topography carefully taken.

Soon after leaving the West Canada creek the line brought them into the clearings at Wilmurt Corners, in the county of Herkimer, along old marks and stone fences which, in the memory of the oldest inhabitants, had been known to be the Jerseyfield line. The wilderness was, however, soon entered again and the experts soon detected old lines of marked trees coming in from the southward and ceasing upon the line which they were retracing. These they identified as lines of the original allotment of the Jerseyfield patent, and they were found to agree very closely with the ancient field notes. Lot corners of Vrooman's patent were also discovered and at 472 chains and 10 links (5 miles, 72 chains, 10 links,) they suddenly came out upon the shores of a lake which was immediately identified as the "first lake" found by Vrooman in 1768.

Vrooman's distance was	481.00 chains.
The new survey made the distance from the shore of Canada creek	472.10 chains.
A difference of	8.90

This difference showed that the original measurement must have been made with what land surveyors term "drag-chain," up and down hill without attention being paid to the exact horizontal distance. In those days this loose measurement up and down hill is said by tradition to have been common; while the ordinary remark at the end of ancient field notes saying, "with the usual allowance "for highways and bridges," was very indefinite.

This first lake, known now as Mount's lake, was crossed by the line near the outlet without difficulty; and the survey party, cheered by the belief that they were upon the true boundary, pushed on.

At 664 chains and 50 links the line reached the shores of another lake known to the guides as North Branch lake.

This was evidently the "second lake" of Vrooman, which, by his measurement, was 672 chains from the West Canada creek.

The difference between the two measurements here amounted to 7 chains and 50 links.

North Branch lake was crossed by triangulation; and despatches were sent to me at Albany announcing these discoveries, and the probability that Jerseyfield lake was, without doubt, Vrooman's "third lake," and that the survey party would reach there on Saturday, July 7th. The despatch also announced shortness of supplies, and urged that provisions be sent to them at Jerseyfield lake.

Leaving Little Falls on the morning of the 7th of July, I reached Jerseyfield lake the same night, myself, baggage, instruments and the provisions for the party being drenched by severe thunder storms en route, notwithstanding rubber blankets. The roads were in a fearful condition. No spring wagon could endure the strains to which the heavy lumber truck was subjected in passing over boulders and crumbling corduroy. The instruments were carefully packed in hay for transportation.

On arriving at Jerseyfield lake I found that the survey party had not yet arrived. I went by boat to the extreme western end of the lake, but pistol shots and shouts failed to obtain any response, and we were left in doubt as to the whereabouts of the party. Judging from the ancient field notes I could not see how, on the course which they were running, they could avoid striking this lake. At evening I was conducted by Mr. Kelley to a point on the west shore of the lake and shown old marked trees which he believed would prove to be the old Vrooman line.

July 8th was Sunday. About noon on Sunday one of the guides arrived from the survey party, bringing out one of the men with him, who had been taken sick. By dinner time the packmen and subordinates of the survey party had come in after provisions. The line was still a mile west of Jerseyfield lake, but was coming directly to it. In the afternoon the packmen marched back through the woods carrying food for the surveyors who had remained in camp.

On the morning of Monday, July 9th, I set out with Mr. Kelley and ascended Mt. Jerseyfield, finding its height by barometer to be 2,323 feet above the sea, but only 387 feet above Jerseyfield lake, which lay hidden in a valley three miles to the north-west.

The solar transit was set up, and repeated observations of the sun taken to determine the direction of the true meridian, which, by comparison with the magnetic observations gave the declination of the needle at 8° 57.′3 west from true north. The latitude of this station is 43° 15′ 50″ and its longitude 74° 43′ 55.″

Observations were secured to numerous wooded peaks, and a plan for connecting with the triangulation to the northward and eastward by way of Mt. Hamilton and Mt. Matteson, drawn but the station was so low and flat that many important points could not be observed at this time, and it became necessary to defer these measurements until a high tripod or tower could be built which would elevate the instrument sufficiently to clear the obstructions.

Written orders as to the details of this work were drawn up and forwarded to the chief signalman, then on Mt. Hamilton, for reconstructing the signal on Mt. Jerseyfield to a height of eighty feet above the rock.

The view from Mt. Jerseyfield is peculiar; few sharp peaks being visible, except far to the eastward. The mountains are disposed in long ridges extending east and west, forest covered, and extremely wild; and, although many lakes exist in the low-lands, not one body of water can be seen from this summit; all is an unbroken sea of woods.

At 8:30 P. M. I reached Jerseyfield lake, and found surveyors Snell and Jones awaiting me with the news that the line would probably reach Jerseyfield lake next day. They were working over difficult ground; the old marked trees were few and far between, and the line difficult to trace.

Advantage was now taken of clear weather to secure observations for local time and azimuth.

The morning of July 10th was bright and pleasant, and all were anxious to learn where and at what distance the line would strike Lake Jerseyfield. The atmosphere was clear, pure and delicious, and the lake, although sparkling in the morning sun, yet partook of the deep azure of the sky.

Under my directions Mr. Kelley placed signals upon the prominent points, and a location near a sand beach on the western shore was selected for the measurement of a base-line from which to triangulate and measure the width of the lake where the line now being surveyed should cross it.

In order to obtain the variation of the needle at numerous points, and the true azimuth of the line, wherever it should cross the lake, repeated observations of the sun were taken with solar transit, both direct and reverse as well as meridian observations of the sun for latitude.

The declination of the needle was found to be 9° 12′.0 west of true north at the station at West point on the west shore of the lake, and 9° 02′.8 west of true north at East point. The direct and reverse true azimuths along this line were practically identical; the magnetic needle showing a local attraction between the stations of about nine minutes of arc.

The most marked local attraction, however, was discovered at the station on Long point; a high rocky promontory which juts into the lake from the north shore, a sudden changing of the Earth's directive magnetic force amounting to 3° 25′, being discovered. The distance from West point is only half a mile, and so great a local attraction of the needle as that found at Long point, can only be accounted for by the existence of magnetic iron ore somewhere in this vicinity. The time is not distant when the valuable deposits of iron existing upon the State lands will be eagerly sought, and there is no doubt, that with careful management, such mines may become a source of great public profit without detriment to the forests.

It was near noon, when a distant shout on the western shore of the lake, warned us of the approach of the surveyors tracing the ancient line. To the delight of Mr. Kelley they emerged from the forest at the very point which he had believed was the original line. The line came down to the shore through a cluster of spruce trees which bore ancient ingrown marks, but no inscriptions cut upon the bark. The age of the line was 115 years, and the old experts were decided in their opinions as to the identity of this line with the original line run by Vrooman in 1768. If any proof were wanting it was given by the comparison of the old and new measurements. Vrooman's original notes were opened and the following entry noted: "Then "continuing my course S. 58° East at 9 miles 58 chains *to the third* "*lake*," soil "stony, timber hemlock, spruce, pine."

The 9 miles and 58 chains are equal to .	778 chains.
Our new measurement made the distance to this *third lake* . . .	763.90 chains.
Difference	14.10 chains.

This is 930 $\frac{60}{100}$ feet shorter than the distance as recorded by Vrooman; but our experience of these old lines, measured rudely with "drag-chain," when compared with true horizontal measurements, which must always be much shorter than the irregularly measured lines made us consider this third agreement with the ancient topographical notes a sufficient proof of the identity of the line retraced with that originally run by Vrooman. Re-measurements of such old lines, when made with precision, frequently show such differences between the old "drag chain" and modern horizontal measurements.

We had now found the true north line of the Jerseyfield Patent, identified by its striking the three several lakes at nearly the distances recorded in the old notes. It is only necessary to add, that in the sections so far traversed on this line, nowhere near it, to the north or south, were there any other three lakes, or any two lakes, which could be thus located on any line of similar bearing or within miles of it.

Another fact was settled by the work so far done on the Jerseyfield line. If any double line existed it must be to the eastward of Jerseyfield lake. The assistants reported to me that the line had been retraced from the West Canada creek on an average magnetic bearing of S. 55° 02′ E. The result from the mean of all the readings taken along the line by computation showed a change from the original bearing (S. 58° 00′ E.) of 2° 57′.1 being the resultant of the combined annual deflections, eastward and westward, of the magnetic needle since July, 1768.

The line having been found on the eastern shore of Jerseyfield lake was now located by signals placed at either end. The station on the western shore was an immense boulder, bedded at the water's edge among other immense stones marked as hereafter described.

This boulder or block of granite was, upon its upper surface, flat; and being large and nearly rectangular, made an excellent instrument station. The transit was set up upon it, and the station centre shown by a drill-hole in the rock, subsequently to receive the nickel plated copper bolt recording the line thus monumented.

The surface of this great stone was 14 inches above the lake. It is surrounded and immovably secured by other boulders. The astronomical azimuth of the Jerseyfield line where it crosses the lake, was found by the mean of seven observations to be S. 63° 56′ 42″.1 East.

This was, consequently, the azimuth of the line in 1768. Comparing it with the original compass bearing we find S. 63° 56.7′ E. true.

Less the original compass bearing . S. 58° 00.0′ E. magnetic.

Difference . . . . . . 5° 56′.7 West.

This difference is the amount of the magnetic declination in 1768, and must be recorded as having been 5°, 56′.7 west of true north in that year.

The average Declination in 1883, *at this point of the line*, was found to be 9° 07′ west of true north.

Deducting from 9° 07.′0
Variation in 1768 5° 56.′7

Shows a change of 3° 10.′3 to the westward, or thirteen minutes more than the average change (2°, 57′.15) along the line west of this lake.

This change of 3° 10′.3=190′.3, *is the resultant* of both *eastward and westward movements of the needle*. In the discussion of these magnetic observations I have come to the conclusion that at the period of the original survey of Jerseyfield, the declination at this important station was 5° 56.′7 West of true north, and since that date the declination has always been to the west of the true meridian, although for about thirty-five years following 1768, there was a slight change eastward, ceasing about the year 1803, with a declination of 5° 23′ West. By 1838 the needle must have crept back to its declination of the year 1768, the annual change to the westward being more rapid until 1860, when computation based on adjacent lines would indicate that the movement west had reached 4′.3 per year. This annual westerly movement is now probably greater than in 1860, but can only be precisely determined by repeated observations.

To the eastward of Jerseyfield lake I found the line very difficult to follow.

Assistants Blake and Francisco coming in to Jerseyfield lake, from a reconnaissance to the eastward of State lands in Hamilton county, reported that a few miles east of Jerseyfield lake, they had struck the "double line of Jerseyfield," and had followed the northernmost line for miles. This northernmost line they said was known to lumbermen as the "Brayhouse line," but from whom the title was derived they were unable to learn.

The question now to be decided was, whether the true line which we had retraced so far, was the northernmost or southernmost of the two lines to the eastward. We had so far retraced 9 miles 58 chains of the old north line, the length of the entire line being 23 miles and 57 chains; there remained 13 miles and 29 chains to be retraced, verified and located.

Having need of the services of assistant Snell as expert in retracing the Herkimer and Oneida county line, of which a report is hereafter given, I directed him to return to Boonville to organize his survey party there and in Lewis county; the party to rendezvous on July 14th, at Forestport.

At the same time I gave instructions to Mr. Koetteritz to extend the survey of the Jerseyfield line eastward, from the east shore of the lake to the north-easterly corner of the Jerseyfield Patent, along the line of original marked trees of Vrooman's survey.

Mr. Jones was directed to remain with Mr. Koetteritz as expert in regard to line trees. The party, however, by the return of Mr. Snell with his topographer and axeman was shorthanded, and Mr. Koetteritz was ordered to secure other men to replace them. As additional supplies were required, and his next absence would now be for over a month in the wilderness, he found that five or six days were needed in the settlements. At the end of that time the new men and the provisions had been secured, and the tracing of the line eastward from Jerseyfield lake was resumed on July 19th; the new men rendezvousing at Salisbury on the 17th, and marching in on the 18th to the lake.

(SECTION II.)

The second survey party consisted of J. B. Koetteritz in charge, with Griffith Jones as compass surveyor, expert on old lines; A. M. Mosscrop, 1st chainman; A. G. Warren, 2d chainman; E. F. Northrop, forward flagman; C. H. Smith, rear flagman; four (4) axemen and packmen, one cook and campkeeper.

Inasmuch as the line was now approaching the most difficult section, it became necessary to know the slightest deflections. I thereupon ordered Mr. Koetteritz to repeat every angle. The measurements were to be made with 50 ft. steel ribbon, graduated to tenths and hundredths of a foot, held horizontal under ten pounds tension by levels attached to brass handles, and aligned by transit. These distances were recorded by each chainman separately and checked by the telemeter stadia wires in the telescope of the transit. At every station the magnetic bearings were recorded direct and reverse, and vertical angles to the tops of the station "flags" or centre poles.

These centre poles were staffs divided for stadia reading, and held vertical by levels and tripods.

By these means great exactness in the measurements, both of directions and distances, were secured, and a positive knowledge obtained by which to test, settle and locate forever the disputed line.

While this party was organizing I returned *via* Little Falls, a toilsome journey,* to the Capitol, and spreading before me the ancient maps of the Jerseyfield and Lawrence patents, examined them in the light of the new evidence obtained. The old field notes of the several patents cornering together at the north-easterly corner of the Jerseyfield patent disclosed, on careful inspection, some surprising differences in the description of this corner.

As this corner would be the terminus of the line now being run by Mr. Koetteritz, and as the entire question as to the proper north line might depend upon this north-easterly corner, I searched every record of the period which gave any account of it.

---

* The forest roads out from Jerseyfield were in a fearful condition. My transit required to be sent to the instrument makers for repairs after its rough journey. To maintain a good instrument in order for accurate work in the wilderness, it should be kept carefully packed in its box and the box transported in a proper knapsack by one of the men. If a large theodolite; hand-bars and straps and relays of packmen should transport it as soon as good roads and light spring wagons are left behind. This rule should be adhered to whatever may be the objections of the men.

In the original survey of Vrooman I found the following description of this corner:

"At 22 miles, 51 chains on the top of a steep, rocky hill at 23; " miles, 7 chains and 33 links down the hill to about the middle of " another small lake of about 20 chains over, I made the corner by " running at right angles where there is another small lake near " adjoining on the north of about the same bigness where we camped " Thursday night."

Thus Vrooman, the original surveyor, makes this corner in "about the middle of a small lake."

The other subsequent patents which were built up on the Jerseyfield, and cornered at the same north-east corner of Jerseyfield, are as follows, viz.:

(1.) Glen, Bleeker and Lansing's patent (89,297 acres) has for its north-west corner the north-east corner of the Jerseyfield patent; but the ancient maps of "Glen, Bleeker and Lansing's Patent" show the corner, not as "in the centre of a small lake" as Vrooman made it, but as "a spruce tree;" his map (1793) bearing the inscription: "This marked tree stands in the easternmost corner of Jerseyfield," and under date of 27th of October, 1794, Simeon De Witt, Surveyor-General of New York, gives the following description of this north-west corner of the Glen, Bleeker and Lansing patent, and says: "Beginning at the north-east corner of a tract of 94,000 acres " of land granted to Henry Glen and others, commonly called Jersey- " field, at a spruce tree standing about two chains north from a small " lake, and marked with a blaze and two notches below on three " sides and the letters C. G.; B. B.; A.; S. L. 1793."

Now, spruce trees do not grow in lakes, or even thrive well in marshes. The corners referred to were evidently not the same.

(2.) Benson township, consisting of 61,503 acres, in the county of Hamilton, is asserted in ancient authorities, to have for its southwestern corner, the north-easterly corner of the Jerseyfield patent. Yet, none of the old maps of the original surveys of that township show this corner located "in a small lake" as described by Isaac Vrooman. On a map of the township of Benson, made from its survey by *Lawrence* Vrooman in 1795, this corner is shown to the northward of a lake, and it is by this surveyor specified to be also the north-east corner of the Jerseyfield patent.

This *Lawrence* Vrooman must not be confounded with Isaac Vrooman, the Colonial surveyor.

Lawrence Vrooman was a resident of Schenectady; and I have not met with his name anywhere in connection with the original survey of the Jerseyfield patent. His surveys appear to have been made during the present century under the State government. This explanation is necessary, as it is believed that some have been misled by the surname into the belief that the same Vrooman surveyed both patents, and, therefore, must have known the true corners.

It is evident from the field notes that Lawrence Vrooman had no knowledge of the location of the real corner of the Jerseyfield patent as first located by Isaac Vrooman.

(3.) In addition to these two tracts, a third tract, heretofore mentioned as the Lawrence patent, and containing 35,560 acres, also depends on the north-east corner of the Jerseyfield patent.

The original description of this patent is contained in a communication addressed by Simeon De Witt, Surveyor-General, February 1, 1793, to "His Excellency George Clinton, Esquire, Governor of "the State of New York," etc., and says: "All that certain tract of "land situate in the county of Herkimer on the north side of the "Mohawk river, beginning at the most easterly quarter of a tract of "94,000 acres of land granted to Henry Glen and others, and com- "monly called Jerseyfield, and running from thence the following "courses as the needle pointed in the year 1770, to-wit: North, "fifty-eight degrees west, along the north-easterly bounds of the "said tract of land called Jerseyfield 1,061 chains to a tract of land "granted to Thomas Sickels," etc., etc.

These quotations show that it was the intention that the patents mentioned should have one common corner at the north-east extremity of the Jerseyfield; *yet the records of the surveys of all of them differ in their description of the corner from that given by Isaac Vrooman as "near the middle of another small lake."*

This difference in the description of the corners made it necessary to search for each of the lines converging at that point, so as to find, prove and identify the true corner — *if there were but one* — or to find the duplicate or triplicate corners, if such existed. To do this, it would be necessary to retrace those portions of the lines of the Benson Township, the Glen, Bleeker and Lansing tract and of the Lawrence patent, which led toward this corner.

Having decided that this was necessary, I telegraphed surveyor Kelly to meet Mr. Francisco; surveyor in charge of retracing lines in the county of Hamilton; and with Mr. Francisco to make the necessary resurvey of the line between the Benson township and the Glen, Bleeker and Lansing patent. To Mr. Francisco I gave further instructions for the tracing of the east line of the Lawrence tract, to or from the easterly corner of Jerseyfield, in such manner as to prove where the line, "south 32° west, 300 chains," describing the east bounds of the Lawrence patent had its actual corner.

It is an established principle of law, that wherever the corners or lines have been actually marked upon the ground and deeds given and accepted to those corners by such ancient marks is the ownership limited; and by the lines or boundaries depending upon these corners are the titles to property, both of the State and of private individuals, rigorously confined by the decisions of the Courts.

Such being the law of the land, the location of these important corners, involving titles to hundreds of thousands of acres for all time to come, could not be too carefully studied and searched out before a decision was arrived at, and the monuments finally placed by State authority for the future guidance of the local surveyors.

With surveyors Francisco and Kelly, I sent R. H. Gere as topographer. They were authorized to procure the necessary chainmen and axemen for the work, and ordered to commence on the south line of Benson, at an undisputed portion of the south line thereof, and north line of Glen Bleeker and Lansing, and to work thence westward toward the corner, at once. Estimating the rate at which the party under Mr. Koetteritz would be able to trace the north line of Jerseyfield eastward, Francisco and Kelly would reach the corner before him from the opposite direction, and thus give marked lines to intersect upon, while the united judgment of all the experts could be brought to bear on the location of the corners while each was fresh from his work and alert and interested in all the questions involved.

This section of work being organized, a glance at the progress of the survey party under Mr. Koetteritz is desirable.

By August 1st, his careful and critical search along the north line of the Jerseyfield Patent, had been advanced $14,434\frac{84}{100}$ feet eastward from Jerseyfield lake. The greatest difficulty had been met with in tracing the old line trees; which was the object of the survey. Local attraction was frequent to the amount of from 1° to 5° between back and foresights, and slight deflections in the old line made it often necessary to examine trees to some distance northward and southward of the range. To find and prove the ancient marks it was necessary to cut into the trees frequently and take out the marks, and count the rings of annual woody growth. These blocks from various trees, spruce, hemlock, balsam (fir), beech and yellow birch, with written attest of the surveyors, were forwarded to Albany, where they are now preserved in the office of the survey in the new Capitol. At station No. 55 on this line, at the corner of lots 87 and 88 of the Jerseyfield Patent, an offset was made and transit traverse run to the Signal station on the summit of Mount Jerseyfield, by which this line has its connection with the triangulation of the interior. The total length of this offset transit line is over two miles. Being a traverse, the line requires to be reduced by computation to one right line and one azimuth. This will be done at once and the results used in platting the line in proper position upon the map projection of Jerseyfield.

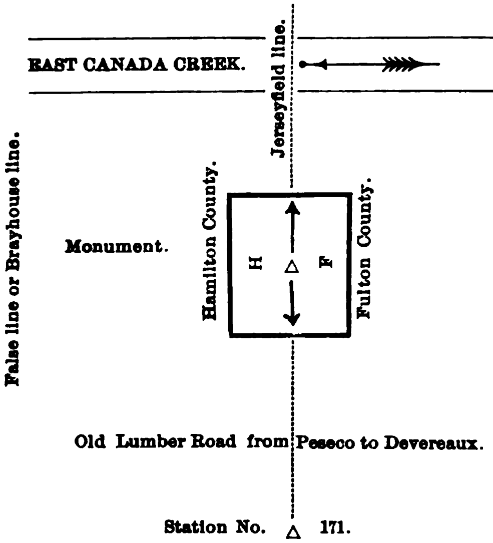
Corners of lots in the Lawrence Patent were found and measured to as the line progressed. At station No. 70, the north-west corner of Fulton county was located and the line continued, forming the boundary between the counties of Fulton and Hamilton. The line south from this corner between Herkimer and Fulton, was found to bear S. 2° West. The region traversed was very wild, as extracts from the journal of the party show that traces of bears and other animals were met with. Mr. Koetteritz writes: "Aug. 9th. Packman sick. Topographer sent to Jerseyfield lake for a pack load of supplies. Line is getting very indistinct, but found some good marks. Heard all afternoon a mysterious noise like that of an engine. Thought it was an old she bear calling young ones. * * * * *

"Aug. 10th. Found that the noise originated from a large colony of blue-herons."(Cranes)." The creek running along the line here shows signs of valuable minerals." * * * * * *

Aug. 11th to 14th continued the line. Aug. 15th. Despatch from Jerseyfield lake from Superintendent to signalman Brown. Sent guide Daley to mountain. Brown gone. * * * * *

Aug. 16th. Found the "extra" or "double line of Jerseyfield," called by lumbermen the "Brayhouse" line. It was to the northward of the true line 23 chains and 13 links by traverse. Cut out blocks from marked trees on the true line and found them 115 years old. The marks on the false or Brayhouse line (south line of the Lawrence allotment), were not more than 90 years old, or twenty-five years less. Set monument on the true Jerseyfield line. This monument is $11\frac{85}{100}$ feet east of the centre of the old Peseco lumber road, on the west bank of the East Canada creek, and $17\frac{58}{100}$ east of Transit station No. 171 of Koetteritz's line as run by my direction. The monument is a large rock, flat on top, the centre marked with a " drill hole and arrows on each side indicating the direction of the " true Jerseyfield line. On the north side is cut the letter H for the " county of Hamilton; and on the south side the letter F for the " county of Fulton.

The following diagram shows the location of this monument:



Great difficulty and much delay were now experienced in tracing the old line, as the lumbermen had cut all over this section, getting out all the best spruce and soft wood timber, so that it was necessary to search for the line, where clumps of the hard woods, ancient beeches and birches were to be found. As such trees carry less trace of such ancient marks, and more frequently die or become rotten in the interior from the old axe-mark, the difficulties encountered and the anxiety and sense of responsibility felt in retracing a line 115 years old, all chopped over, cannot be understood without experiencing them.

The distance to the East Canada creek by our measurement with steel ribbon, leveled and aligned, was 33,869$\frac{02}{100}$ feet from Jerseyfield lake, or by computation, 513.16 chains. The total distance now measured from the West Canada creek (head of the "island") being 1,277 chains and 9 links. Isaac Vrooman in 1768 made this

16 miles and 20 chains, or 1,300 chains.
Deducting . . . 1,277 chains.
The difference . . . 23 chains

less length by the new and exact measurement. The banks of a stream, however, form a less reliable check than the immovable rock-bound shore of one of these forest lakes. The lake is often so small in this section of the forest that it forms a mere spot upon the map and is a reliable landmark, especially here, where there are no other small lakes in the vicinity.

Abbreviating the details of this work it is here sufficient to state, that every lake alluded to in the original field notes, was found to be crossed at approximately the distances recorded by Vrooman on the southernmost of the two disputed lines, and that consequently, the northernmost or Brayhouse line was evidently in error and not entitled to be called the Jerseyfield line in any sense.

The line was again proved at the crossing of Dexter lake: Vrooman says, "at 19 miles and 30 chains to a small lake." This would be . . . . . 1,550 chains.

We obtained . . . 1,527.35 chains.

Difference . . . . 22.65 chains

less than the ancient measure. This was within less than half a chain the same as the difference found at the East Canada creek.

It is needless to multiply examples. The three spectacle lakes were next encountered and were crossed by a careful triangulation from a base-line, measured with steel ribbon, and verified on a second base at the eastern end of the chain. The ancient surveyors passed these lakes by offsets with compass and chain. As the triangulation gave the distance with great exactness, it might reasonably be expected that a small change in the difference between the old and new measurements would now be found. At length, on the 4th of September, assistant Koetteritz traced the line to the summit of a hill which, from an elevation of 300 feet, looked down upon a small lake. This was the "steep rocky hill" described by Vrooman, and at a distance of 1,814.03 chains, the shores of the "small lake" mentioned by Vrooman, were reached.

Vrooman described this lake as being "about 20 chains over"— and says that he made the corner "about the middle." To find the corner, therefore, 10 chains distance should be added to our traverse line, making a total of 1,824.03 chains. Vrooman's exact words are: "At 23 miles 7 chains and 33 links, down the hill to about the "middle of another small lake of about 20 chains over, I made "the corner by running at right angles where there is another small "lake near adjoining on the north of about the same bigness."

Vrooman's total distance along the north line of Jerseyfield is, consequently . . . . . 1,847.33 chains.

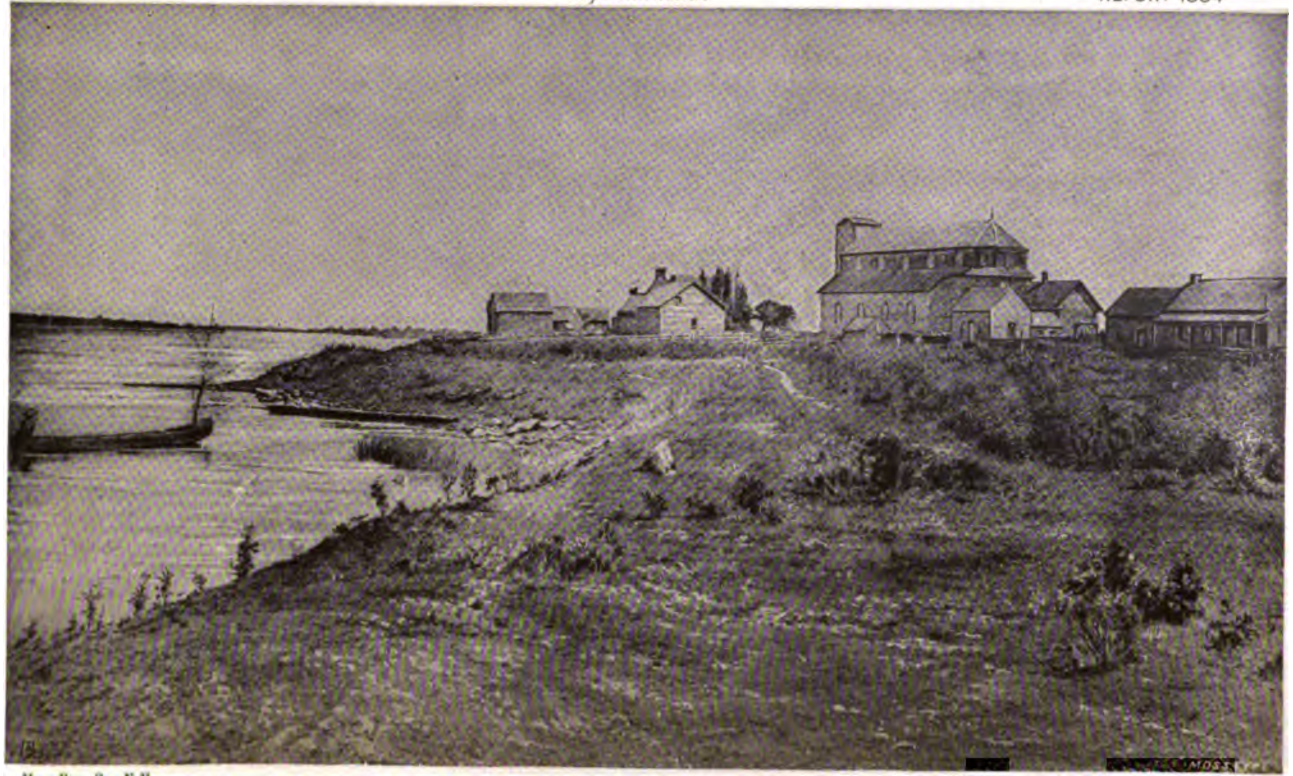
The new and exact measurement . . 1,824.03 chains.

Difference . . . . . 23.30 chains.

NEW YORK STATE LAND SURVEY.

VERPLANCK COLVIN,

PLATE No. 5. *Superintendent.* REPORT 1884



Moss Eng. Co., N.Y. Weed, Parsons & Co., Printers, Albany, N.Y.

INDIAN CHURCH OF ST. REGIS.

AND THE BANKS OF THE ST. LAWRENCE RIVER NEAR MONUMENT AT TERMINATION OF SURVEY LINES MEASURED FROM THE HUDSON.

There is no question that this was Isaac Vrooman's original line and that he actually located this corner in the little lake. The difference of 23 chains and 30 links by Vrooman, is the error made by rough drag chain measurements. This difference was almost identical with that found at the crossing of East Canada creek, and is but half a chain from that at Dexter lake. It is possible, that in crossing Jerseyfield lake and the other waters to the westward, Vrooman may have made an offset not recorded; or, with his rude compass may have encountered a deflection on the offsets round the lakes, which, with the errors of the rough chaining with an unknown standard up and down hill, made the amount found by the new and critical measurement with steel ribbon.

When the new measurement with graduated steel tape is corrected for temperature, and reduced to one azimuth, it will prove less than the amount above given, and increase the difference stated.

The little lake in which the line terminated, and which forms the landmark or water mark, of the north-easterly corner of the Jerseyfield Patent, I have identified as the westernmost of three lakes found by the early explorers of this region, the trappers Stoner and DeLine, "who, while hunting, discovered many bushels of dead "fish, principally suckers, which had got over a Beaver dam in a "freshet; and which, being unable to return, had died upon the re-"cession of the waters to the great annoyance of the hunters;"* who in consequence gave the disagreeable name of "Stink lakes," to the chain. They are still thus commonly known to hunters. I prefer to call them after the discoverers and rename them Stoner's lakes.

For the purpose of describing the locality more definitely, I shall call the lowermost and largest lake, situated almost entirely in Lot 62 of Glen, Bleeker and Lansing's purchase, as the lower Stoner lake. This lake has a bay extending northward across the Benson line, into which comes the inlet from the East lake, or De Line's lake. On the north-western shore of the lower Stoner lake, the inlet from Vrooman's lake enters, while the outlet of the main lake flows from its south-western extremity to the waters of Fish creek; and so to the East Canada and the Mohawk river.

On arriving at Vrooman's lake assistant Koetteritz found that surveyors Francisco and Kelley had preceded him, having finished their work in retracing the line of the Benson township, and the north line of the Glen, Bleeker and Lansing purchase; and were now retracing the boundary between the Benson township and Lawrence tract.

---

* Simms' History.

In retracing the south line of the Benson Township they came, not to Isaac Vrooman's lake, but to the old "spruce tree," described in the field notes of 1793, and erroneously called by Lawrence Vrooman the north-east corner of Jerseyfield. This ancient spruce was dead and crumbling into decay, but bore upon it the original blazes and hacks described by Lawrence Vrooman. It was taken down and replaced by a stone monument; a huge boulder with drill-hole centre to receive the inscribed nickel-plated copper bolt. The title proper to be placed upon it, was left for the decision of the Superintendent. It was necessary to await the completion of the surveys and the discussion of the results before the proper inscription could be settled upon, and the copper plate of the bolt-head engraved and nickel-plated. Meanwhile the marked section of the ancient spruce tree was cut out with care and transported to Albany, and placed in the office of the Survey at the Capitol. Surveyors Francisco and Kelley had also found two other ancient corners near the spruce tree, each one duly marked and witnessed. There was, therefore, an abundance of corners at this point; four corners having been found with marked lines running to them, and each one supposed to be the north-east corner of the Jerseyfield. This was, of course, preposterous; but the existence of four duly marked corners remained as hard indigestible facts.

The location of these several corners is well shown on the accompanying diagram. At the close of the conference with the surveyors and an examination of numerous corners, Mr. Koetteritz returned to his own party at Vrooman's lake; and, in accordance with my instructions, commenced a secondary traverse line, with transit to connect the original Vrooman line and corner with the "corners" of Benson and Glen Bleeker and Lansing's purchase. This traverse reached the old spruce tree corner at a distance of $1,377\frac{42}{100}$ feet (20 chains 87 links) from station No. 337 of the resurvey of Jerseyfield line. At a distance of 4 chains 56 links further (N. 77° E.) the Brayhouse or false Jerseyfield line, was found cornering on the west line of the Benson township. Many additional details of interest might be given of the work done in this department of the survey, but the material facts have now been disclosed, and space and time both compel me to proceed at once to a statement of the results of the work.

CONCLUSIONS.

After an examination of the ancient records and the rediscovery and retracing, by exact methods of survey, of the ancient lines, I reach the following conclusions:

(1.) That four separate and distinct corners were located by the old surveyors of the Jerseyfield, the Glen, Bleeker and Lansing, the Benson and the Lawrence Tracts; and that in regard to these corners the five expert surveyors, who executed the new work and whose several lines here converge, agree.

(2.) That but one of these corners was, and really and in fact is the true north-east corner of the Jerseyfield patent, namely: the corner located in the westernmost of the three Stoner lakes by Isaac Vrooman in the year 1768, which is nearly in the centre of the water that should be called Vrooman's lake, or the West Stoner lake.

(3.) That the said corner is identified by the topography; the line from the West Canada creek crossing lake after lake in the regular order described by Vrooman; and "corners" at last, after "descending a steep rocky hill," in "another small lake."

(4.) That Vrooman, by his method of rough drag-chain work, made the total distance too great from the West Canada creek to his north-east corner in the little lake; but this does not change the line or the corner that he established, as the original lines marked and corners located hold good, at law, notwithstanding any error which may have been made in the original record of measurements.

(5.) That the north-west corner of the Glen, Bleeker and Lansing purchase, was not located at the north-east corner of the Jerseyfield patent, in the little lake described by Isaac Vrooman, but at a spruce tree, marked as a corner in 1793, twenty-five years after the survey of the Jerseyfield Patent.

(6.) That the true line should extend from the south-west corner of the Benson township (the point marked B on the diagram) southerly to the real Jerseyfield corner in Vrooman's lake; the westernmost of Stoner's cluster of ponds; and that thence the east line of the Jerseyfield patent extends, south-westerly, to the corner of the Royal Grant at Devereaux.

(7.) That the Benson Township south-west corner, did not extend to the real Jerseyfield corner, nor properly as far west as the spruce tree corner (now marked by a stone monument of 2,200 lbs. weight, set by the present survey); that the resurvey of the south and west lines of the Benson Township, produced southward and westward, intersect near a stake and heap of stones, to the eastward of the ancient spruce tree, a distance of 3.56 chains.

(8.) That the south-west corner of the Benson township is *not* at the north-east corner of the Jerseyfield Patent, nor does it touch that patent at any point (a very considerable interval existing between the two patents); but corners upon the north line of the Glen, Bleeker and Lansing patent at the stake mentioned.

(9.) That the stake and heap of stones to the eastward of the intersection of the south and west lines of Benson, may have been considered by some as the true south-west corner of Benson; that such stake and heap of stones at the north-east corner of the Jerseyfield patent do not properly represent the south-west corner of the Benson Township, but may have been placed as the corner of lots 62 and 63 of Glen, Bleeker and Lansing's subdivision or allotment of their purchase.

(10.) That the original survey of the Lawrence Patent bases the south line of that patent entirely upon the original north line of the Jerseyfield, as surveyed by Isaac Vrooman.

(11.) That the south-east corner of the Lawrence Patent is identical with the north-east corner of the Jerseyfield Patent, and is located in the little lake described by Isaac Vrooman, and identified as the westernmost of the Stoner lakes, on the north bounds of the county of Fulton.

(12.) That the north line of the Lawrence Tract is, by the old measurements, properly located 300 chains N. 32° E. as the needle pointed in 1791, from the north line of the Jerseyfield patent between Vrooman's little lake and Jerseyfield lake, or between Vrooman's lake, and a point one thousand three hundred and eighty-two chains therefrom northwestward on the Jerseyfield line.

(13.) That the line known as, or called, the Brayhouse line, is *not* the north line of the Jerseyfield Patent, but is a later, subsequent line, located to the northward of Isaac Vrooman's original line, marked for the north boundary of the Jerseyfield Patent.

(14.) That an allotment of the east portion of the Lawrence tract has been made northward from the false Jerseyfield line or Brayhouse line; leaving an interval between the true line and the Brayhouse line not allotted or taken up although within the Lawrence patent.

(15.) That this unoccupied strip of forest land in Lawrence patent, has been only partially cut upon by lumbermen, and contains between 1,800 and 2,000 acres; and that such part as has not been held by adverse possession against the State for a period of forty years, is still the property of the State, and is valued by qualified experts, having knowledge of the value of timbered lands in that district, at $4 per acre, or about $8,000.

(16.) That this strip of unoccupied land terminates with the Brayhouse line, near Black Creek lake, at the east line of the Caldwell and Sickels patents, east of Jerseyfield lake.

(17.) That the allotments of the Jerseyfield Patent terminate necessarily at the boundaries of that patent; and, consequently, at the original north line as run by Isaac Vrooman, retraced by surveyors Koetteritz and Jones under the present survey, and verified by the work of surveyors Francisco and Kelley.

(18.) That the allotment of the Lawrence patent, wherever commencing, terminates at its north line 300 chains by the original survey from the north line of the Jerseyfield patent.

(19.) That this north line of the Lawrence patent is the south line of the townships of Nobleborough and Arthurborough produced south-eastward.

(20.) That there is great probability that a gore or interval of unoccupied land exists northward of the Lawrence patent, between it and the Oxbow tract, occasioned by the Brayhouse line having been made the base for the allotment of the Lawrence patent; so that starting too far north, the allotment ran over and beyond the true bounds of the Lawrence tract; and that thus the north line of the outermost tier of lots was made a new north line beyond the true line; and that this new allotment line became accepted as the south line of the Oxbow tract; but that the question cannot be settled without additional surveys.

Should the location of the boundaries of the Oxbow tract prove this to be the case, the State is, here, the owner of another large area, gore, or tract of unoccupied land of 1,800 acres, worth from $2.00 to $4.00 per acre, or from $3,600 to $7,200; and that no injustice may be done any private owner, inquiry should be made as to the occupancy of such lands and the taxes paid thereon, and descriptions thereof should be rendered to the Comptroller by the assessors; to the end that those who have paid such taxes may be dealt with equitably by the Comptroller, the Attorney-General and the Commissioners of the Land Office.

FINDINGS.

I find, therefore:

I.

That the Jerseyfield Patent is divided into 94 lots, located within the limits described by Isaac Vrooman in 1768.

II.

That none of the allotments, State or private, that may extend northward across the Jerseyfield line to the Brayhouse line are authoritative allotments of the Lawrence tract, and they cannot be allotments of the Jerseyfield patent as they are beyond its limits.

III.

That deducting the strip of land found to be actually an unoccupied southern portion of the Lawrence tract, the allotments of the Jerseyfield patent, as now marked upon the ground, are correct, where based upon Isaac Vrooman's original corner in the small lake described by him and his original line, extending north-westward therefrom.

IV.

That the Benson township does not reach to or corner with the Jerseyfield patent.

V.

That the Lawrence patent is subdivided in a complicated manner; and the cause of all the difficulty has been the disputed south line of that patent.

VI.

That there exists an unoccupied strip of forest land in the Lawrence patent, between the north line of the Jerseyfield and what is called the Brayhouse line; which latter line is the base and commencement of the proper allotment of the Lawrence patent.

VII.

That the unoccupied strip aforesaid or so much thereof as has not been held against the State by adverse possession for forty years, is the property of the State.

VIII.

That the allotments in the east portion of the Lawrence patent properly commence and extend northward (or N. 32° E. as the needle pointed in 1793) from the Brayhouse, line as a base, to the north line of the Lawrence patent only, and there terminate; and that all other allotments of the eastern part of the Lawrence tract are erroneous.

IX.

That the Caldwell and Sickels tracts are now properly allotted and located upon the true Jerseyfield line, and are not affected by the Brayhouse line allotment.

X.

That in addition to the twenty parcels of State land in Jerseyfield, and the numerous portions within the Lawrence allotment owned by the State, a large tract of unoccupied land have been discovered in the Lawrence patent between the Jerseyfield and Brayhouse lines, which properly appertains and belong to the State, but was not known to exist by the State authorities.

XI.

That there is probability that a similar area of unoccupied State land exists on the north bounds of the Lawrence patent, in the strip of land taken into the Lawrence allotment improperly, between the south line of Nobleborough and Arthurborough produced, and the south line of the Oxbow Tract if the south line of the Oxbow tract prove to be located northward of the original north line of the Lawrence tract.

All the questions growing out of the complications arising from the disputed north bounds of the Jerseyfield Patent have thus been settled. The work has been extremely laborious and, affecting the title to over 300,000 acres of land, worth upward of a million dollars, has been one of responsibility and care.

SECTION II.

CLINTON COUNTY.

The lands of the State in the county of Clinton, have an area of 42,600 acres. They are principally contained in Townships Nos. 3, 4 and 5 of the Old Military Tract. The lands in Townships 3 and 4, were found to have but little value as compared with those in township No. 5, and in consequence of the limited time and means, it was found to be absolutely necessary to give almost exclusive attention to those in Township No. 5.

The desire of the Comptroller and State Tax department that the conflicting surveys made in this township under the old compass method, should be corrected, and order and system brought out of the chaos which enveloped the titles of both public and private lands within this township, made it of the more importance that the questions involved should be settled at once. Surveys, of a partial and irregular nature, had repeatedly been made in this township by order of different Comptrollers and the local authorities, not only to locate the boundaries of the State lands, but to ascertain where the lines of the several lots, adjacent to the State lands, requiring to be accurately assessed, might be.

It had been impossible for the officers of the Tax department to procure accurate descriptions of these lands; yet a decision or judgment of the courts directed that the taxes upon lands in this township should be in accordance with what was known in 1868, as the "New Survey." The mention of a new survey in 1868, implied, of course, that there had been a *previous* subdivision of the township into lots. There was, evidently, a conflict between the old and the so-called new allotments. That such "old" and "new" allotments had in some manner or form been made, was evident from the references thereto in the office of the Comptroller; and it was also evident that in this conflict between the two systems of allotments, existed the difficulty of determining both the location of the State and of private lands, and the adjustment and collection of taxes throughout the whole township. The fact that the estimated value of all the lands within this township has been placed at many millions of dollars; the great deposits of magnetic iron owned by the Chateaugay Iron Ore Company, being entirely within its bounds, and that more than 10,000 acres of State lands are also located therein, together with the earnest desire of the Comptroller that I should cause a survey to be made which would settle all the disputed questions, led me to believe that this was one of the most important surveys under the law of 1883, requiring my attention.

In order to ascertain, authoritatively, what particular lots, pieces and parcels of land were held to be the property of the State, a letter was addressed to the Comptroller requesting a certified copy of the description of said lands from the deed of Rogers to the State, and the views of the Comptroller as to the lots owned by the State and the area claimed by the authorities. In response to this letter, the following communication was received from the Comotroller:

STATE OF NEW YORK,
COMPTROLLER'S OFFICE, ALBANY, *October* 8, 1883.

VERPLANCK COLVIN, *Superintendent*
New York State Adirondack Survey,
Albany, N. Y.

SIR — Yours of the 24th ult. was duly received. Inclosed herewith please find marked "1" a copy of the description of lands conveyed August 31, 1868, by Edmund Law Rogers and wife to the people of this State; marked "2," a copy of the description of lands quit-claimed March 1, 1871, by said Rogers to said people; marked "3," a copy of Comptroller W. F. Allen's letter of October 7, 1868, to H. D. L. Sweet, showing Mr. Allen's opinion of the location, dimensions, etc., of the lands in Township 5, Old Military Tract, Clinton county, actually conveyed to the State by said deeds; and marked "4," a copy of a part of the "Hannah Murray Map," referred to in said deed marked "1."

Therefrom you will see that certain lands in said Township were conveyed to the State, irrespective of the acreage thereof, and that the Comptroller, under whose administration the purchase of said lands was completed, considered, in accordance with our own views that said deed marked "1" conveyed the S. E. corner of said Township, six-tenths the distance of said Township long N. & S., and one-third the distance thereof wide E. & W.

But, if the lands thereby conveyed were surveyed and monumented, as called for by the latter part of said deed marked "1," then, in such case, we deem it prudent that you should consult the Attorney-General as to whether or not the boundaries and limits of the lands so conveyed are *finally* and legally prescribed and defined by such survey and monuments.

Respectfully yours,
HENRY GALLIEN,
Deputy Comptroller.

1. Description of land conveyed by Edmund Law Rogers and Charlotte M. L. Rogers, his wife, to the People of the State of New York, August 31, 1868, recorded in Clinton County Clerk's office September 3, 1868, in Vol. 58 of deeds, page 49, etc.:

"All the following described parcels or tracts of lands, situate in Clinton county, New York, described as follows, to-wit: Commencing in the south-east corner of Township No. 5, Old Military Tract, Clinton county, New York; thence northerly on east line of said Township No. 5, six miles; thence west three and one-third miles; thence south or southerly, six miles to the south line of the Township No. 5; thence east on said south line three and one-third miles to place of beginning, excepting lots 127, 128, 173, 177, 180, 243, 246 and 250, and one hundred and twenty-one and one hundred and twenty-two, it being understood that this conveyance is to include lots 123, 124, 125, 126, 129, 130, 171, 172, 174, 175, 176, 178, 179, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 244, 245, 247, 248, 249, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, as the same are laid down on the Hannah Murray map, so-called, referred to in the partition deed of the said Township between the said Hannah Murray and John L. Norton, and recorded in the clerk's office of the county of Clinton in Liber H. of deeds, folio 158, etc., reference being had thereto.

"And the said Edmund Law Rogers doth also sell the wood on the aforesaid two excepted lots numbered one hundred and twenty-one and one hundred and twenty-two in conformity to the agreement made between Smith M. Weed and John Hammond, bearing date the fourth day of January, in the year eighteen hundred and sixty-eight, reserving from every separate fifty acres of said two lots last-mentioned, fifteen acres, the location of which acres is first to be made by said Rogers upon reasonable request, two years being allowed by said agreement to remove the wood so as aforesaid sold.

And the said Rogers doth also sell, assign and transfer to the said party of the second part all the claim, right, title and interest of said Rogers in and to all wood, coal, timber, or logs cut upon or received from any of the said lots or tracts hereby conveyed, and all claims, right, title and interest in or to all waste, trespass or damage of any kind done thereon, and will and does release the State of New York, and each and every officer thereof, or of Clinton prison, from any and all such claims, excepting said Rogers does not assign or transfer any claims for trespasses during the past year done or committed on said lands by any person not working for the State, or where the wood, coal or timber was not purchased or received by the State or any of its officers. *Together*, with all and singular the hereditaments and appurtenances thereunto belonging, or in anywise appertaining, and the reversion and reversions, remainder and remainders, rents, issues and profits thereof, and all the estate, right, title, interest, claim and demand whatsoever of the said party of the first part, either in law or equity, of, in and to the above granted premises, with the said hereditaments and appurtenances."

And it is hereby understood and agreed by and between the said Edmund Law Rogers and the said party of the second part that the whole outlines of the whole tract hereby granted, together with the outlines of the aforesaid two excepted lots numbered one hundred and twenty-one, and one hundred and twenty-two shall be surveyed, and the courses thereof established by durable stone land-marks or monuments within six months from the date hereof by a surveyor to be named by the State Engineer and Surveyor, the one-half of the expense of said survey and monuments to be borne by said Rogers and the other half by said party of the second part.

2. Description of land conveyed by Edmund Law Rogers to the People of the State of New York, March 1, 1871, recorded in Clinton county clerk's office, March 1, 1871, in book No. 62 of deeds, page 593.

" All those two certain pieces or parcels of land situate and lying in said Clinton county, known and distinguished on the map of Township number five, Old Military Tract, as recorded in the office of the clerk of said county with the Deed of Partition and Release between Hannah Murray and John L. Norton, and being the same lots as are on said map numbered one hundred and ninety and two hundred and thirty-one, and were conveyed to the party hereto of the first part by Rutger B. Miller, Jr., of the city of Utica, in said State, on the 20th day of September, 1870, by deed now of record in the office of said clerk, in book of deeds No. 62, page 518."

3. COMPTROLLER'S OFFICE,
October 7, 1868.

H. D. L. SWEET, Esq., care JOHN PARKHURST, Esq., Dannemora.

DEAR SIR — Your favor was received. Your interpretation of the deed is right. Both lines are to be run on the same principle. The State is to have six-tenths of the lot north and south, and in the same proportion according to its length of line east and west. You will make the survey accordingly, and do not be disturbed by any thing that the other party may do or say.

Respectfully your obedient,
W. F. ALLEN, *Comptroller.*

The survey of the township was not made by Mr. Sweet, the difficulties proving very great. A Mr. Featherstonhaugh continued the work, but his efforts were limited to the accurate retracing of the east line of the township.

The views of Comptroller Allen, as expressed in his letter of October 7, 1868, were based upon the assumption that the township, or "lot," as he terms it in his letter, was rectangular and of such dimensions that, if a section at the south-easterly corner, extending six-tenths of the distance along the east line, north from the south-east corner, with a breadth of three-tenths of the township were taken, it would include the lots mentioned in the deed and shown on the Hannah Murray map therein alluded to.

These lands, therefore, certainly required to be surveyed and located, and preparations for the field work were immediately begun.

The first step was to examine the history of the early surveys, so as to disentangle and separate the conflicting views as to the location of the boundaries.

Immediate search was, therefore, made, through the State departments, for all papers or maps bearing upon the location and subdivision of township 5. The survey of the Old Military Tract was made in 1787, under authority of the State, by Cornelius Tappen, R. Cochran and George Flemming. The east line of Township No. 5, being a portion of the outer limits of the patent, were located at this time by the compass line run by George Flemming. The original surveys of the townships were examined, and it was found that the earliest record was the map of the original survey made by R. Cochran in 1787, upon a scale of forty chains to the inch. No figures are given upon the margins of this map to show the distances actually chained; but a comparison with the scale proves it to have been considered as a rectangle, eight hundred chains on a side, and containing one hundred square miles, or sixty-four thousand acres. Cochran's map is among the official records of the State, and is authentic and accepted as the first or original survey of the bounds of the township, and the allotment *proposed*.

The subdivision or allotment of the township by Mr. Vaughn was made about thirty years after Cochran's survey, and its allotment, as shown upon Vaughn's map, forms what is now known as the "old survey." This map bears an inscription addressed to the then clerk of supervisors of the countyof Clinton, which reads as follows:

" *To* H. K. AVERILL, Sr.:

"SIR — Agreeable to your request, in behalf of the supervisors of "the county of Clinton, I send herewith a map of Township No. "5, Old Military Tract. The north half of this town was intended "to be turned into lots to contain 320 acres each, and the south half "into lots containing 140 acres each. But the proprietors, in order "to make a division among themselves, made an arbitrary map of "3 lots a mile square, and divided the town accordingly, which "map was sent to me, as their agent, to sell by. But finding that "impossible I was directed to have the old corners established, and "an accurate measurement of all the lines of lots on the north half "of the town made, which was done by Col. Vaughn in the sum- "mer of 1824, and this map is a correct coppy of the original made "by Vaughn, which I am now selling lands and conveying their "lands by, and the same as the one that was furnished the office of "the town with and on which they have made their assessments, "and will so continue to do, for it is the only survey now made of "said town. The south half of the town, I presume, is as incorrect "as the north part of survey.

"LEWIS RANSOM,
"*Agent for the proprietors.*"

This map bears the indorsement of Henry K. Averill, clerk of the board of supervisors February 21, 1827, and has been adopted in the Comptroller's office as the only map of record of allotment by actual subdivision of what is called the "old Survey" of Township No. 5.

Examining this map, as to the width of the township east and west, I find that it shows twenty lots along the north line, the width of which are as follows, commencing at the eastward:

	Chains.
Lot No. 1	39.80
Lot No. 2	43.43
Lot No. 3	42.74
Lot No. 4	36.14
Lot No. 5	47.20
Lot No. 6	38.49
Lot No. 7	42.11
Lot No. 8	44.30
Lot No. 9	37.30
Lot No. 10	35.52
Lot No. 11	46.20
Lot No. 12	26.50
Lot No. 13	50.75
Lot No. 14	30.20
Lot No. 15	44.50
Lot No. 16	47.45
Lot No. 17	36.25
Lot No. 18	46.70
Lot No. 19	35.00
Lot No. 20	72.58
Width north side of township	843.16

or ten and a half miles and 3.16 chains.

This computation proved that even under the "old survey" allotment there could be no question that the township exceeded the width of ten miles (as claimed to have been located by Cochran;) by more than half a mile; and the cause of the difficulty experienced in locating the lots owned by the State, in accordance with the so-called "new survey," was the fact that the dimensions and area of the "new survey" allotment differed, very materially, from the "old survey," as to the real dimensions of the township itself.

The "map referred to in partition deed of said township, between Hannah Murray and John L. Norton," and recorded in clerk's office of the county of Clinton, in volume H. of deeds, p. 158, (see deed of Rogers to the State,) I find to be the only record or representation, officially of record at the period, which in any manner represents the so-called "new survey."

This important map has no record of any measurements upon it, and shows merely a theoretical re-allotment; which was here clearly intended to subdivide the entire township into 300 equal lots.

Not one of these lots has its length or breadth given upon the map, and the map is without scale or indication of its proportion to nature.

This is all there is of this so-called "new survey." Yet it is by this "Survey" that the State holds its lands and collects assessments upon the adjacent property.

It is essential, therefore, that we consider this apparently insignificant bit of paper carefully.

The first question is: what was the scale of this map?

By measurement the map is found to be about $14\frac{3}{10}$ inches wide and $14\frac{4}{10}$ inches long. Cochran's survey of the township made it a square; ten miles on each side.

If the dimensions of the so-called "new survey" map are tried by an assumed scale of 60 chains to the inch, we find (14.4 x 60 — 864 chains) the length and breadth of the township, nearly coincide with the allotment width by Vaughn's subdivison in 1826; called the "old survey."

Assuming this scale of 60 chains to the inch, the "new survey" map, gives for the width

Of the township	864.00 chains.
Vaughn's old survey allotment gave .	843.16 chains.
Difference	20.84 chains.

It is singular that this difference agrees almost precisely with a narrow strip of lots about 20 *chains wide shown on the map of the original survey of the Township by Cochran in* 1796.

On this map this strip of land 20 chains wide, extends along the entire westerly margin of the township from north to south.

In 1874, an assessment survey was made by Mr. William E. Smith, and the results were shown upon a map filed in the office of the Comptroller, June 17th, 1874. This map gives the south half of Township No. 5, in accordance with the "new survey" allotment, as required by the order of the Court.* It shows each of the

---

* The following is the order of the Supreme Court (commonly called the "decree of the Court,") which gives directions as to the manner in which assessments shall be levied in township No. 5.

THE PEOPLE, EX. RELAT. JOHN L. NORTON,
vs.
The ASSESSORS OF THE TOWN OF ELLENBURGH, in the County of Clinton.

Beardsley & Carey, att'y, on filing writ of alternative mandamus, and the return of the said assessors thereto, and on motion of Mr. Beardsley, of counsel for Relator, and, after hearing Mr. Reynolds of counsel, opposed, no sufficient cause for the contrary being shown.

"new survey" lots as having an area of 240 acres each, and by the scale of the map, and the acreage of the lots, it is evident that they were then considered to be each 30 chains east and west, and 80 chains north and south ($\frac{80 \text{ ch} \times 30 \text{ ch}}{10} = 240$ acres). By the "new survey" the township was divided into 30 lots east and west. Now 30 lots, each 30 chains wide, would make the township 900 chains wide east and west, $= 11\frac{25}{100}$ miles.

Still more recently, by order of the Comptroller, Mr. C. W. M. Johnson took up this greatly vexed question, of the location of the bounds of the State lands, in order to construct a map by which sales might be made to certain settlers or squatters upon these Prison Lands of Dannemora, under a Special law passed for that purpose.

Mr. Johnson comes to still another conclusion; and on his map makes the so-called "new survey" lots to be 28.78 chains east and west, and 81.80 chains north and south, giving to each an area of $235\frac{42}{100}$ acres ($\frac{81.80 \times 28.78}{10}$).

Using his value for the width of the "new survey" lots, the township would be $870\frac{40}{100}$ chains, or $10\frac{88}{100}$ miles wide, east and west.

To recapitulate: Four independent surveys or estimates had been made of the width of the township.

In 1796	Cochran's measurement gave . .	10.00 miles.
1826	Vaughn's allotment . . .	10.53 "
1874	Smith's assessment map . . .	10.25 "
	Johnson's land map . . .	10.88 "

The differences between these several surveys were so great as to be only explicable on the theory of general uncertainty as to the real boundaries of the township itself.

Before, therefore, we could undertake to set apart and monument the lots belonging to the State, it was necessary to dissolve this uncertainty by rigorous measurements of the length and breadth of the township. This determined, the real dimensions and area of the State lots could be easily found.

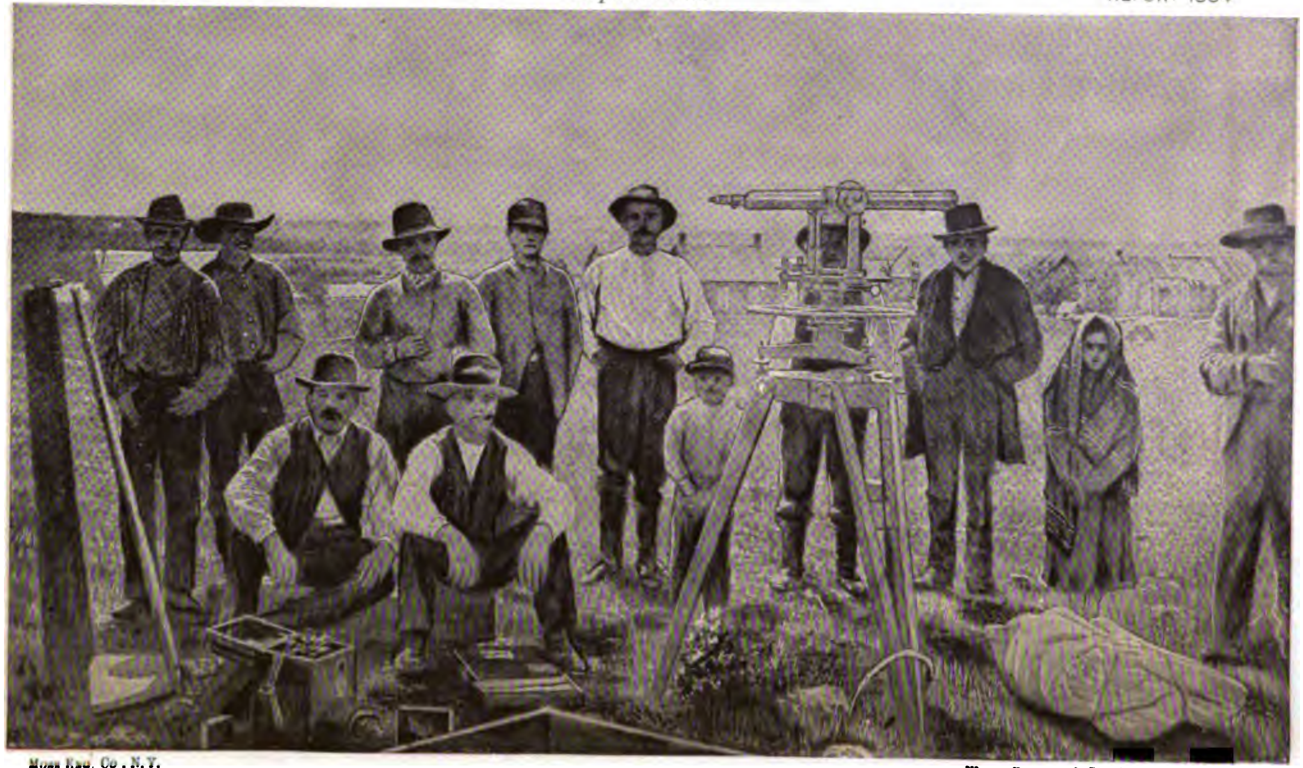
The survey of the township having been determined upon, the proper methods to be taken to secure the degree of precision needed had next to be considered.

Ordered: That a peremptory mandamus issue to the assessors of the town of Ellenburgh, in the county of Clinton, commanding them at the next assessment so to assess township number five, Old Military Tract, being in said town of Ellenburgh, so far as regards the lots of Relator, as that the assessment roll will correspond with and be in conformity to the map of said township accompanying the deed of Partition of April 10th, 1822, copies of which have been served upon said assessors, by numbering the lots assessed as numbered on said map, and in the manner particularly stated in the papers upon which the motion for an alternative mandamus was founded.

NEW YORK STATE LAND SURVEY.

VERPLANCK COLVIN,

PLATE No. 6. *Superintendent.* REPORT 1884



Moss Eng. Co., N.Y.

Weed, Parsons & Co., Printers, Albany, N.Y.

GROUP OF INDIANS AT ST. REGIS

REMNANT OF THE IROQUOIS OR SIX NATIONS, WHO OCCUPY WHAT IS KNOWN AS THE ST. REGIS RESERVATION.

The problem required that the length of each of the sides of the township should be ascertained with exactness.

The boundaries, chiefly in doubt, were the North, South and West lines of the township, the east line being known from measurements made in 1871, when that line was run with transit by Mr. Averill. The measured transit line run in 1877 through township No. 4, about three-quarters of a mile south of the south bounds of Township No. 5 could be used to find the deflections of the south boundary from a right line, and could be tied to the new measurements and monuments, to be set by the special transit lines, measured with steel ribbon.

The organization and arrangement of the twelve special survey parties, which were to be placed immediately in the field, caused some little delay; and, as I was, moreover, unwilling to place all of the parties in the field until contracts had been made as to the rates of compensation to be paid to the engineers and subordinate employees, a few days were passed in consultations. Written contracts having been made by the several surveyors selected to take charge of the field-work, the arrangement of the parties and assignment of men to duty was at once commenced.

Mr. H. K. Averill, of Plattsburgh, was appointed to take charge of the work in the County of Clinton, and directed to make a reconnaissance of Township No. 5 with a view to perfecting the plan of survey. He was instructed to make search for the anciently marked corners of the township, and to visit certain elevated points near the lines, and determine which of the signals, heretofore established by the Adirondack survey, were visible from these new hill stations, and could be used to connect the new work with the surveys of the interior.

In accordance with these instructions, he proceeded with his signalman to reconnoitre the lines of the township, commencing on July 5th, and was so fortunate as to find each of the original corners of the Township. This preliminary work was completed on July 11th. The interval between this date and the 30th was occupied by the erection of signals.

The signal built near the south-east corner was called "Pyon," and was so named from being located on the Pyon patent.

Caanan signal was constructed about four and a half miles north from the north-east corner of Township No. 5, and nearly on the east line of Township No. 6.

The signal on Birch Hill near the Chateaugay Iron mines, and that on Sanborn Hill near the lower Chateaugay Lake were designed to connect the south-western and north-western corners with the primary triangulation at the Lyon Mountain station of 1878.

On Wednesday, Aug. 1st, assistant Blake arrived from Albany to inspect the progress of the preliminary work, and returned immediately to report to the Superintendent.

The measurement of the north bounds of the township was commenced on August 3d from the north-east corner, along the said line westward. The true meridian was determined by astronomical observations and the azimuth of the line as run by transit. This azimuth was tested by assistant Glover at different points along the line, with a portable transit with solar attachment.

The north-east corner of the township is monumented by a marble post, set about the year 1868 by direction of Mr. Rogers, the then owner. This post was found to have been deflected from the vertical by frost, and was again truly centered by Mr. Averill by reference to his station-marks of 1871, which were found intact. Mr. Averill reports of this monument that "I found it standing in "the roots of a beech tree, which had been the original 50-mile "tree marked by George Flemming in 1787."

From this post the north line of the township was traced by transit, all angles being carefully repeated and distances measured by steel tape, with spring balance level attached, the temperature being read off at every station.

The survey partly consisted of ten men in addition to the assistant in charge, Mr. H. K. Averill. One transit-man; one line-searcher, pioneer and head flagman; four axemen; two chainmen; one rear flagman; one man acting as camp-keeper and cook. They encamped along the line, moving their tents and baggage forward as the measurements progressed.

The marked trees of the "old survey" line were frequently met with and measured to, but nowhere was there any trace of the so-called "new survey" referred to in the deed of Rogers to the State.

The measurement of the width of the township along its north bounds was completed on the 20th of August. The north-west corner was found to be an old and decaying beech stub, which was dug up and replaced by a large block of native stone, duly marked as a monument. The drill hole in the top of this monument represents the centre of the Transit Station, being Station No. 133, and distant $10\frac{75}{100}$ miles from the opposite north-easterly corner of the township.

This monument also marks the south-west corner of Township

No. 6, the south-east corner of Township No. 7, and the north-east corner of Township No. 8 of the Old Military Tract.

It was temporarily marked as follows:

West face:

North.	T. 7 & 8 V. C.	South.

East face:

South.	T. 5 & 6 H. K. A.	North.

August 21st, the measurement of the west line was commenced southward from the stone monument set on the 20th. On the 22d, a beech stump was found bearing marks of the "old survey."

On August 24th, the line was completed as far southward as Sanborn Hill, and connection made with the signal station at that point. On the 30th of August, a broad stream called "the narrows," between the upper and lower Chateaugay lakes, was reached, and crossed by triangulation from a base line upon the shore, to the left of station No. 197; the triangle side No. 197 and No. 198, crossing the stream, being computed at $941\frac{22}{100}$ feet.

On September 7th, the time of service of several of the aids expired, and some delay was experienced before other men could be procured to fill their places. Skilled chainmen, accustomed to exact measurements with steel ribbon, carefully leveled and held to regular tension, by spring balances, etc., are difficult to procure, and have, usually, to be trained specially for this service. New men were secured and trained to the work, but the measurements proceeded slowly and required for a while the constant attention of the chief of the party. The "old survey" line was found to be curved and irregular, and a constant search had to be maintained for the old line trees. Ninety-seven years had now elapsed since the original survey under Cochran, and a great number of the marked trees had died and disappeared during the interval; those that remained had the marks so ingrown that only deep chopping would reveal them.

Progress in the identification of the line and measurements was consequently slow.

On September 20th the party was visited in camp by the Superintendent on his round of inspection of the work of the survey parties in each of the several counties. The south-west corner of the township was visited, and the inscriptions made upon the trees by the old surveyors examined. Trees marked by Vaughn at the time of his allotment in 1826 were sound and a proof-block cut from an original line tree of Cochran, counting by annual rings of growth, back to the year of his survey, was attested by the names of the party present, and transmitted to the Survey Office in the Capitol at Albany for record.

Mr. Averill was directed to increase his force and continue the work, and for that purpose he returned to Plattsburgh on the 22d for men and provisions.

On the 10th of October the south-west corner of Township 5 was reached by the transit traverse. The measurements, with steel ribbon, of the western line of the township make it $10\frac{42}{100}$ miles in length from the monument set at the north-west corner to that placed at the south-west corner. The location of the south-west corner is in the Cedar swamp on the west bank of the inlet of the Upper Chateaugay lake, and is sufficiently shown on the map of the township accompanying this report. It now only remained to obtain the length of the south line by connecting it with the transit line of 1877. On account of rise of the waters in the Upper Chateaugay lake, which flooded the tree swamps on either side of the inlet to a width of a half mile or more, it was found impossible to extend the survey eastward along the south line of Township 5. The flooded forest, itself naturally a marsh, was impassable for chain (steel tape) measurements, and the dense, impenetrable mass of drowned timber absolutely prevented triangulation across it. The superintendent consequently issued orders for the temporary disbandment of the party. It was thought best to wait until the marsh had frozen over and had become accessible.

On October 25th the superintendent, then maintaining his headquarters in his tent on Lyon Mountain, where he was busied with theodolite work connecting the new signals and transit line work with the Adirondack Survey triangulation of the interior wilderness, sent orders to assistant Averill to meet him for conference in his tent on the peak. The conference was held accordingly, and a plan perfected for the completion of the work. Snow now covered the mountain peaks, and winter was closing rapidly in, but ice had not as yet made the inlet and flooded tree marsh at the head of Chateaugay lake passable. The work upon the south line of Township No. 5 was therefore resumed at the east end of the line near Pyon signal. A permanent stone monument of rough native rock was placed at the south-east corner of the township, appropriately marked, and the centre thereof indicated by a drill hole, made for the copper bolt to be hereafter set therein. From this monument the traverse line with transit, called the " Pyon line," was run and measured eastward so as to connect with the transit line of 1877. The location of the road to the Junction Kilns, near the west shore of Chazy lake, and the location of that lake, in connection with the roads, railroad and topography were secured while awaiting the freezing of the Chateaugay inlet. Numerous monuments were set for reference points near where it was now thought that the corner of the State lands would come; one, on the south line of the township, of granite, estimated to weigh 1,500 pounds, and another smaller monument, further along the line, as a reference point. The remainder of the work proved very complicated, especially at the south-west corner of the township where what is known as Kellogg's Gore; a strip of lots on the west side of Township 4, located by Silas D. Kellogg in 1822, was found, and the north-west corner of Township No. 4 was demonstrated not to be identical with the south-west corner of Township No. 5, thus proving the existence of two separate corners on the south bounds of Township No. 5, viz.: Vaughn's corner of 1826, at station No. 302 of our transit line, being the south-west corner of Township No. 5, and another corner a mile to the eastward, along the said south line of Township No. 5, which was the north-west corner of Township No. 4, and the north-east corner of lot No. 18 of Kellogg's Gore. The hemlock tree marked for this latter corner by Kellogg, in 1822, was here found in good condition.

By December 11th the cold had become intense, and ice began to form rapidly on Chateaugay lake. The marsh at the head of the lake was now accessible, the ice being safe to men keeping sufficiently apart. The measurements were, therefore, resumed and successfully completed; and by means of a sled, drawn by long ropes, the stone designed to mark the south-west corner of Township 5 was brought to the station, and placed as permanently as the softness of the ground permitted.

A large stone was also set at the north-west corner of Township

No. 4, and a large cedar post at the corner of lots 18 and 19 of the Gore.

This completed the field work. Assistant Averill returned to Plattsburgh on December 14th, and commenced the platting of the lengths of his base-lines, and the drafting of the topography upon the map of the township, which was completed on the 19th of January, 1884, and is herewith transmitted.

CONCLUSIONS

After a careful consideration of the results of the field work in this section I reach the following conclusions:

(1.) That the "new survey," referred to in the deed of Rogers to the State, does not exist, and never has existed, as an actual allotment or survey of Township No. 5, in the Old Military Tract.

(2.) That the real dimensions of said Township No. 5 are as follows:

North line, ...	10.75 miles.
West line, ...	10.42 "
South line, ...	11.31 "
East line, ...	10.23 "

(3.) That the real area of Township No. 5 is, in round numbers, allowing for the curves beyond the right lines given above, $113\frac{88}{100}$ square miles, or 72,886 acres.

(4.) That the allotment shown on the map of Vaughn in 1826, and known as the old survey, was actually made, and the lines run by magnetic compass and marked upon the trees.

(5.) That the country being, in numerous places, underlaid by magnetic iron, the compass needle was frequently deflected in an extraordinary manner, and the irregularities of the so-called "old survey," by Vaughn, were the result, to a great extent, of local attraction of the needle.

(6.) That the "old survey" allotments, as shown by Vaughn's map, are the only allotments in use by land owners and the proprietors of the great iron mines within the township.

(7.) That the re-subdivision of the entire township into lots, in accordance with the Hannah Murray map, into three hundred equal parts, would be mathematically impossible, and if attempted would be enormously expensive, entailing — if run by transit — the location of 40 transit lines, each averaging $10\frac{7}{10}$ miles in length, and could not be done accurately at an expense of less than $20,000 to $30,000, and might cost $50,000; without any adequate reason therefor, beyond the order of the court requiring assessments to be levied in accordance with the Murray map, or so-called "new survey."

(8.) That it is practically impossible to divide this township into three hundred equal lots, on account of the irregularities in its boundaries, and that it is unnecessary, if possible, as there is an existing allotment.

(10.) That, finally, the entire question of the area and location of the lands owned by the State narrows down to two propositions only:

FIRST PROPOSITION.

The intention of the Hannah Murray map, (or so-called "new survey,") was to divide the assumed mile squares in the south half of Township No. 5 into lots containing equal thirds of Vaughn's "old survey" allotment.

Under this interpretation the State would be entitled to three and one-third ($3\frac{1}{3}$) of the old survey lots east and west, and six (6) lots of the old survey north and south. This would give the State an area largely in excess of the 10,000 acres hitherto held to be the area of this block of the State lands.

SECOND PROPOSITION.

Another hypothesis is that adopted by Comptroller Allen, as shown in his letter of October 7, 1868, and as explained by the communication from the late Deputy Comptroller, under date of October 8th, 1883. This proposition is that the State is entitled to a tract in the south-east corner of Township No. 5, six-tenths ($\frac{6}{10}$) of the length of the township north and south, and three and one-third tenths ($\frac{33}{100}$) of the township east and west. The objection to this theory is that the State purchased certain lots only; that these lots were intended to be thirds of the old survey approximate mile squares, and that the lines, if now run under this second proposition, would cut across the lines of the "old survey" lots, disturbing ownerships and arousing interminable disputes and litigation.

FINDINGS.

Adopting the first proposition as the most equitable, and as the most economical one for surveying, I find the following to be the location of the several lots owned by the State in Township No. 5:

DESCRIPTION

Of lots owned by the State of New York in Township No. 5 of the Old Military Tract, as conveyed to the State by Edmund Law Rogers in deed bearing date August 31, 1868, viz.:

Lot 130 (of the Murray map) is the east two-thirds of lot 87 of Vaughn's allotment.

Lot 129 (of the Murray map) is the west two-thirds of lot 86 of Vaughn's allotment.

Lot 126 (of the Murray map) is the west two-thirds of lot 84 of Vaughn's allotment.

Lot 125 (of the Murray map) is the east one-third of lot 84 and the west one-third of lot 83 of Vaughn's allotment.

Lot 124 (of the Murray map) is the east two-thirds of lot 83 of Vaughn's allotment.

Lot 123 (of the Murray map) is the east two-thirds of lot 82 of Vaughn's allotment.

Lot 171 (of the Murray map) is the east one-third of lot 107 of Vaughn's allotment; and the west bounds of lots 190, 231, 250 and 291 of the Hannah Murray map, are the west bounds of the east one-thirds of lots 114, 127, 134 and 147 of Vaughn's allotment, and similarly lots Nos. 172, 174, 175, 176, 178, 179, 181, 182, 183, 184, 185, 186, 187, 188, 189, 232, 233, 234, 235, 236, 237, 238, 239, 240, 249, 248, 247, 245, 244, 242, 241, 292, 293, 294, 295, 296, 297, 298, 299 and 300, of the Hannah Murray map, are respectively one-thirds of lots 108, 109, 110, 111, 112, 113, 128, 129, 130, 133, 131, 132, 148, 149 and 150 of Vaughn's allotment, as originally surveyed and marked, however great the excess in the said lots may be above the original estimated area.

The limited time and means have rendered it impossible to go into this matter in the report with greater minuteness. If required for the use of the Comptroller, the Tax Department or the Land Office, a special description of each of these several lots can be given. The above statement will, however, probably answer every practical purpose.

SECTION III.

LEWIS AND HERKIMER COUNTIES.

BOUNDARY LINES.

The State lands in the counties of Lewis and Herkimer are in small parcels, widely separated. The location of these lands by survey, so as to show them accurately upon the maps, required the establishment of certain primary lines of the patents and counties in which they were situated. Our office experience in regard to these counties and lands had been that there were no starting points of the ancient survey work, available, which could be accurately laid down upon paper and used as a basis on which to construct the land-maps.

The destruction of the records of the county of Herkimer by fire many years since, swept away nearly all the data relating to the subdivisions of the early surveys and land patents in this part of the State.

While these early surveys were, undoubtedly, far from being exact in their measurements, yet the lines located by them are the only marked boundaries and subdivisions of property — whether cleared or forest land — and under the decisions of the courts must be accepted as the legal boundaries and limits of either State or private property.

The directions of some of these boundaries are prescribed by certain statutes which, not having been drawn with a sufficient understanding of the proper technical phraseology, are scientifically indefinite, and only to be interpreted by a study of the condition of engineering and surveying in this State at the time of the passage of the laws in question.

Upon the interpretation of the laws governing the location and direction of the boundaries of the counties of Lewis and Herkimer, depends the meaning of the word "north," as used in the statutes; and upon this, in turn, depends not only the direction of the boundaries of the adjacent county of Hamilton; and the north and south lines of the large towns therein; but the acreage of the triangles which those town lines cut off from the old townships. The directions of the lines making given angles with the "north point" are similarly governed by the absolute direction of the point itself, and upon this hinges the whole question of the location of boundaries and the accurate mapping of the lands within these counties.

I have heretofore, in a former report, discussed this subject at some length, but a proper understanding of the work done in this section and the need of it, requires a brief statement of the question before an account is given of the measurements and results.

More than eighty years ago the Legislature placed in the statutes verbal descriptions of the boundaries of the several counties of the State. I extract from the Revised Statutes the description of the boundaries of the county of

LEWIS.

"The county of Lewis shall contain all that part of this State bounded as follows: Beginning at the south-east corner of the county of Jefferson, and running thence southerly along the easterly bounds of the townships numbers seven and twelve in Constable's patent to the north bounds of Scriba's patent; then along the same easterly to the north-east corner thereof; then north sixty-two degrees east along the southerly line of Macomb's purchase to the line of the county of Herkimer; *then north along the west bounds of the county of Herkimer to the bounds of the county of St. Lawrence;* then along the south-westerly bounds of the said county to the line of the county of Jefferson; and then along the easterly bounds of the said county to the place of beginning."

I have italicised some of the words so that it may be observed that the east line of the county of Lewis must, by the law, conform to and be identical with the west line of the county of Herkimer.

The statute gives the boundaries of the latter county as follows:

HERKIMER.

"The county of Herkimer shall contain all that part of this State bounded northerly by the county of St. Lawrence; easterly by the counties of Hamilton and Montgomery; southerly by the county of Otsego; westerly by a line beginning at the south-west corner of a tract called Cochran's patent, and running thence northerly and easterly along the bounds thereof to a line beginning in the south bounds of the tract granted to William Bayard and others, called the Free Mason's patent, where the same is intersected by a line run south from the former fording place in the Mohawk river, at old Fort Schuyler, now called Utica; and running thence north along said line to the southerly line of Cosby's manor; then north-easterly in a direct line to the northerly bounds of said manor, at a point where the same is intersected by the division line between Gage's and Walton's patents; then northerly on the line between the said patents to the West Canada creek; then up the said creek to the north-east corner of Service's patent; and then north to the county of St. Lawrence."

We have to deal particularly with the last three lines in the above description, viz.:

* * "Then up the said creek to the north-east corner of Service's "patent; and then north to the county of St. Lawrence."

This appears to be a simple and clear statement. It would seem at first reading that nothing would be more easy than to comply with the strict letter of this law. Yet, as a matter of fact, the description is imperfect, obscure and liable to mislead many of those consulting it.

The obscure and difficult points are:

(1.) It does not specify where the north-east corner of Service's patent is, and there are no records in any of the State departments which describe the manner in which this corner is marked.

(2.) If the magnetic meridian were intended, the declination of the needle at the time and in that locality should have been given in order to furnish a basis for computation and survey.

The law relative to the bearings and courses mentioned in the description of the boundaries of counties and towns is as follows (Revised Statutes chap. 2, part 1):

"§ 3. All lines, which in the foregoing bounds are described by "courses indicated by the magnetic needle, are respectively to be "taken as the magnetic needle pointed at the several times when "such lines were originally established."

It is very unfortunate that the statutes of the State were ever made a vehicle to carry down to posterity a mandatory rule requiring the uncertain and variable magnetic needle to be the standard of reference for all of the most important boundaries of the civil subdivisions of the State.

Throughout the entire mountainous section of northern New York there is hardly a place where the declination of the needle will not differ from its declination on the next adjacent tract.

This local attraction is not usually occasioned by visible magnetic iron ore, nor by magnetic storms. It belongs to each locality; forming, apparently at each station occupied, a local magnetic deflection, more or less constantly attendant upon the needle in its various hourly, daily and yearly movements.

It has, therefore, to be borne in mind that, upon a compass line in this region, every station has its local attraction, from a minute quantity almost imperceptible to a deflection amounting to one or more degrees between back and fore sights upon a right line.

The first and great difficulty in running any long line by the needle has been, and always must be, the fact that the needle does not point alike along a line; in other words, a magnetic meridian is not a uniform mathematical line, but is a tracing upon the surface of the earth of the natural, but somewhat irregular, locations of equal amounts of magnetic force.

Another vital objection to the magnetic needle is what may be termed its "reading error." The same bearing cannot be read twice *precisely* alike by needle, and no two needles will give *precisely* the same bearing for the same line.

These are some of the reasons which make the statute before alluded to absurd. If the statute (§ 3) had been merely an explanatory clause it would have done no harm. It is its mandatory character which has created the difficulty, in requiring the modern and exact methods of measurement to be made on such lines conformable to the ancient and erroneous system.

The special law under which the present survey was being made requires maps of these counties, showing the location of the lands with more accuracy than heretofore. It became my duty to follow the intention of the law in its spirit; and, as nearly as possible, to its exact letter.

In view of the apparent impossibility of reconciling systems so much at variance (within moderate limits) it will be proper to give a somewhat detailed account of the methods adopted in effecting this result.

Special laws and resolutions have been passed by the Legislature at various times looking to the survey and location of the west line of the county of Herkimer.

In 1852 the Commissioners of the Land Office were directed to cause this boundary line to be surveyed.

No work was done by the Commissioners of the Land Office under the law of 1852. It is probable that the lack of a positive knowledge of where the north-east corner of Service's patent was, and the engineering difficulties, discouraged the board from undertaking the work.

In 1876, I discovered that there was no real boundary line between the counties of Hamilton and Herkimer for a distance of upwards of forty miles. This discovery led me to make search as to the location of the Herkimer and Lewis county line, and of that line also no trace was to be found. The compass surveyors, woodsmen and lumbermen nearly all agreed that no line of any kind had ever been run between the counties of Lewis and Herkimer.

In 1881 I was directed by a joint resolution of the Senate and Assembly to locate this line. A topographical reconnaissance, and an examination of the adjacent boundaries of the Brantingham tract was made, and of John Brown's, and the Adgate and Moose river tracts, for the purpose of ascertaining what precise geodesic value should be given to the word "north"—"as the magnetic needle "pointed at the several times when such lines were originally estab-"lished;" such being the requirement of the law.

As the result of these investigations I found that an attempt had been made to run this line by compass at the beginning of the present century; and near the banks of Moose river I found some marked trees which indicated that a compass line (counting back the number of rings of annual woody growth) had been run for the east bounds of the County of Oneida eighty-nine years previously.

Search was made in the County Clerk's Office of the County of Oneida, but it failed to reveal any documents authenticating this east line of that county, or indicating that the line of marked trees found south of Moose river had any legal status, or that it was indeed a county line.

It must be borne in mind that the east boundary of this part of the County of Oneida is by law based upon the disputed boundary of Herkimer county, and intended to be identical with it. If, therefore, the few marked trees found at the north end of what appeared to be the Oneida county line, could be proved to have been located under proper authority of law, then the average astronomical bearing of such trees would be the true azimuth on which the boundary between Herkimer and Oneida counties should be run.

In 1881, therefore, I made careful search for authentic documentary evidence in regard to this Oneida county line, but no good evidence was obtained that the few marked trees (found south of the Brown Tract) actually belonged to a line running "north" from the "most north-easterly corner of Service's patent," as required by the Statute. Thus the investigation was brought back to the uncertain starting point, the ill-defined north-east corner of the old patent, of which no record could be found.

Satisfied that some of the lines of the Service patent could not fail to be found, I made search during July, 1881, for such lines, examining deeds of owners of property; and, upon the testimony of the inhabitants, and in accordance with the views of all experts in regard to boundaries in this part of the County of Oneida, I traced what was claimed to be the north line of Service's patent eastward to the West Canada creek at a point near where Black creek enters the larger stream. Black creek has its sources in the Jerseyfield patent far to the eastward, and near its mouth tradition has located the initial point of the county line, and the much sought north-east corner of Service's patent.

That the line, which was locally known as the north boundary of Service's patent, should, when traced, come to this point was confirmatory of the tradition. I had no doubt that this was the true north line of the patent; as the deeds of adjacent property so described the lots as to furnish in my judgment sufficient identification; the difficulty was that the shores of the West Canada creek at this point, opposite the mouth of Black creek, are low and flat, and have always been submerged by floods during periods of high water. The line was found to disappear on a broad promontory of gravel and sand; the projecting portion of this promontory had long been swept clear of the original timber; while all traces of the line ceased a quarter of a mile to the eastward.

The problem was: where was the north-east corner? What was this corner and in what manner had it been marked?

Tradition would not answer here. It was essential that the corner should be found in order to start the survey from it.

Not satisfied with the indefinite termination of this north line of Service's patent, I directed resurveys to be made of such of the lines of the adjacent patents as were shown by the official assessment map of the State, (Burr's Atlas,) to converge toward this corner. The south-east corner of the DeWitt Tract,* in Oneida county, appears on this map to corner with the Service's patent at a point where the west line of the Matchin Tract descends to the West Canada creek.

---

* Part of the old Remsenburgh patent of 1787.

The west line of the Matchin Tract was therefore searched out and traced southward to its intersection with the north line of Service's patent. This point of intersection was on the sandy alluvial promontory in the bend of the West Canada creek opposite the mouth of the Black creek. Every indication pointed to this intersection as having been the north-east corner of Service's patent, but there was no corner, no stake, or stone, or stump, or tree, nothing but the lowland meadow of short wild grass, surrounded by clumps of thorn bushes (*Cratægus Crus-galli*, LINN.), and elders (*Sambucus Canadensis*, LINN.). This was in July, 1881. Long search, at that time, failed to reveal any other corner, and here, by my direction, a massive monument of native granite, weighing in the neighborhood of a ton, was located, and the point of intersection of the lines marked by a drill-hole in the rock. Here the work on the Service patent lines ceased for 1881, and, other surveys requiring attention, was not resumed until 1883, when the passage of the law requiring me to make surveys showing the location of the State lands in all of the northern counties, made it necessary again to take up work in this section.

The survey of the boundary line between the counties of Lewis and Herkimer, I had found in 1881 to be so expensive a work, if done in the best and most substantial manner; (the only manner in which such lines should ever be run) that I had reluctantly, on the completion of the reconnaissance, deferred the work to await further action by the Legislature.

The passage of the present law, and the urgent desire of the Comptroller that the west boundary line in the county of Herkimer should be located, again drew my attention to the question. After deliberation, I came to the following decision. To map the lands, towns and townships in the western counties, mentioned in the law of 1883, a knowledge of the direction or true bearing and location of the west line of the county of Herkimer was necessary. This being decided upon, the character and extent of survey work required had next to be determined.

The substance of the statutes affecting this question may be reduced to three points:

(1.) That the west line of the County of Herkimer is identical with the east lines of the Counties of Oneida and Lewis. (Compare boundaries of Herkimer, Lewis and Oneida counties as given in the Revised Statutes.)

(2.) That the initial point of the said line is the north-east corner of Service's patent. (3 R. S. 3d ed.)

(3.) That the direction of said line must be the direction in which the north end of the magnetic needle pointed, *at the initial point* referred to or such section thereof as may have been run by needle in the year of the passage of the law.*

After carefully considering all the facts; the topography of the country, the lack of sufficient records relating to Service's patent; the absence of any old corner; and the absence of any continuous line between Oneida and Herkimer counties (notwithstanding the existence of marked trees south of Moose river,) I resolved to review the whole question by a personal examination of the ground, topography, and patent lines, in the hope of being able to find a sufficient section of the east line of the County of Oneida to enable me to get the azimuth (or true bearing from the astronomical meridian) of some line of old compass trees at the locality, so as to ascertain what was the true direction of "north, as the magnetic needle pointed," within the meaning of the statute.

Having settled upon the work to be done I directed assistant S. H. Snell, then (July 10th, 1883) engaged with Mr. Koetteritz in tracing and locating the north bounds of the Jerseyfield patent, to leave that party on completion of line to Jerseyfield lake, and return to Forestport, Oneida county; there to assemble a sufficient survey party for the execution of the measurements.

Forestport was made the base of operations on account of its being situated nearly midway opposite the Oneida-Herkimer section of the long line, of which our survey work of 1881 taught us some traces might be found to the eastward, and which, if it could be proved and identified, would afford the range and direction of the boundary to be run between the counties of Lewis and Herkimer.

From Forestport good roads radiate southward into Service's patent, eastward toward the disputed county line, and northward toward the Lewis county corner. Telegraphic and frequent postal communication was also to be had from this place, so that I could communicate with the several survey parties more readily than at a station back in the wilderness, and receive and answer dispatches from the Capitol immediately.

Arrangements were made for encamping the survey party as near where the line was supposed to be, as practicable, and the search for

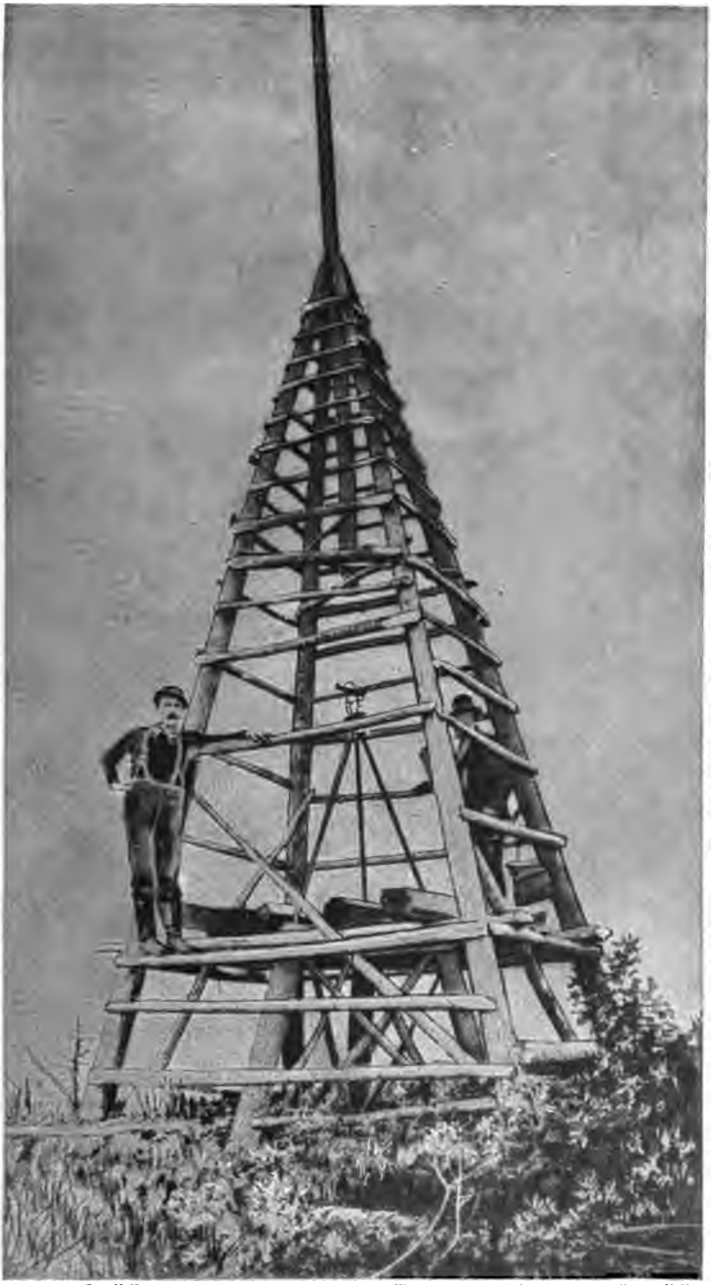
---

* The month, day and hour should have been given, if any scientific value was to be attached to the magnetic meridian.

NEW YORK STATE LAND SURVEY.

VERPLANCK COLVIN,

PLATE No. 7. *Superintendent.* **REPORT 1884.**



Moss Eng. Co., N.Y.   Weed, Parsons & Co., Printers, Albany, N.Y.

SIGNAL Mt. AZURE.

STATION ON THE LOWER St REGIS. SOLAR-TRANSIT MOUNTED ON HIGH-TRIPOD.

documents and records relating to the patents and lines with which we had now to deal, was resumed.

An indefinite tradition existed that this Oneida county line had been run in 1802, but by whom or in what manner no one was able to say positively.

The time was limited. August was approaching; many other surveys required attention, and, in October, snow would commence to descend and retard work and so blind the surfaces of marked trees as to practically close the season.

Consequently, this party was ordered to assemble immediately; and, on July 14th, I proceeded from Albany to Forestport, where Mr. Snell and his transitman, Mr. C. R. Hawkins, with the topographer, chainmen and axemen, met me in accordance with instructions.

I had already this season (June 26th) reconnoitered the region through which the work of this survey party was to extend, from an elevated point in the south part of the town of Remsen, Oneida county, which I named, after the owner of the land, Pritchard Hill.

Pritchard Hill is the crest of a semi-wooded range of hills resembling the sand dunes of the sea coast, except that boulders on the skirts of the hills, in places, associate the formation with the drift period. Although the hill is less than five hundred feet above the Black river level at Forestport feeder, it commands a very extended view over the forest northward.

From its summit the vast, almost prairie-like forest of the western border of the great wilderness extends, until, at the horizon, forest, cloud and sky melt into hazy uncertainty. A few ridges or elevations roll across this immensity of forest, but only serve as shadows, without locality or name, in this vast landscape. Far to the eastward wooded hills, nameless and unknown, are distinguishable — the outlying spurs of other mountains that form the western members of the Adirondack system.

The view from this summit showed how difficult was the work before us. It was impossible to reach the corners of any of the important lines directly by triangulation, and I saw at a glance that long and toilsome transit lines would have to be run through the forest to connect the initial points of the great land patents and boundaries. Northward, however, toward Boonville and the Moose river region, the land grows higher, gradually sloping upward from forest covered plains of 1,100 or 1,200 feet to crests exceeding 2,000 feet in height above the sea. Studying these ranges with my telescope, I was at length gratified to find my old station, Gommer Hill, in Lewis county, and further to the left, "Pen Mount," a signal station of the United States Coast and Geodetic Survey, occupied by them while engaged in their transcontinental triangulation, which spreads its network across the Mohawk valley from brink to brink of that great basin, and reaches thence through the heart of the State to Lake Ontario, Lake Erie, and the State of Ohio. Pen Mount was one of these stations, a broad, flattened hill, cultivated to the very top, with a farm-house on the summit accessible by carriage road. The summit of Pen Mount is 700 feet above the Black river canal feeder at Boonville; which, by the canal levels, is 1,124 feet above tide. The levels of the Adirondack Survey have not as yet been extended as far to the south-west as Boonville, the nearest line being that which extends from Lake Champlain across the wilderness, to Lowville, in Lewis county

These are the most considerable elevations upon this side of the wilderness; and when the fact is considered that the general altitude of the lowlands in this vicinity is rarely less than 1,000 or 1,200 feet, and that all the slight ridges to the eastward are forest covered, the great obstacles thus offered to triangulation may be appreciated.

It was important to know every feature of the ground; and, accompanied by the survey party, I ascended Pen Mount and made a reconnaissance with a six-inch theodolite transit.

From the Coast Survey station on Pen Mount (although the atmosphere was quite hazy) I again saw the low dark ridge which, from Pritchard Hill, I had noticed to the north-eastward, near the supposed location of the Oneida county line. This ridge was evidently quite low, only one or two hundred feet above the surrounding forest, and difficult to locate. Near it, however, was a small patch of light green, an oasis in the dark forest. This, we learned, was a clearing made by one Myers, near whose place the bark-peelers in the employ of the tanners, were busily employed cutting and peeling hemlock trees and stacking the bark. I was now informed by Mr. Snell that it was near this place, during his search for the Oneida county line, in accordance with my directions in 1881, marked trees had been found which were called the "county line."

On Monday, July 16th, therefore, I proceeded with the party to the Myers' clearing, which was found to be seven miles north-eastward from Forestport. The clearing by barometer was found to be 330 feet above Forestport. To the northward the wooded ridge stretched nearly east and west less than half a mile distant. Ascending this ridge I found the timber comparatively open, the hemlock and spruce having been cut away by lumbermen and bark peelers. The top of the ridge was soon reached and was found to have a height of 170 feet above Myers' clearing.

Search was immediately made for the highest point of the ridge, and a knoll was found a little way to the eastward on the ridge where the rock was exposed — a compact granular gneiss — which would afford a firm foundation for a signal station. From an opening in the timber to the westward, a view was obtained which proved that this ridge commanded all the lowlands to the southwestward as far as Pritchard Hill and Pen Mount, and consequently the forest through which the long boundary line must be run. Southward, in the horizon, some ranges of low, very distant hills were barely discernible in the haze; northward the view was obscured by forest. In order to plat the position of the hill so as to ascertain its value as a station in my plan of work, I set up the solar transit and observed the sun for azimuth and obtained the true bearing of Pen Mount.

Meanwhile Mr. Snell and party had been busily searching the forest for old line marks, but found almost all the older soft wood trees cut. I went with him about a quarter of a mile eastward to a point where he felt sure that in 1881 he had found marked trees of the east line of Oneida county, but a forest fire had since then visited this section, and all marks that could be positively identified were gone. A few weather-beaten stumps and stubs only raised themselves above a dense growth of briers and raspberry bushes. On some of these stumps were scars in the wood that were evidently (from the peculiar form of the mark and contortion of the weathered fibres of the wood) very old axe marks. There were no trees remaining by which to find the direction in which these marks ran. Hunters, trappers and lumbermen had blazed trees at various times for trails and roads, and it was impossible to prove that any of the marked trees found were the proper, legal marks of the boundary between the Counties of Oneida and Herkimer.

Hoping that north or south of this station some line trees might be identified, I placed the party in camp, giving instructions to the line experts to search the whole forest for lines, and to ascertain whether any could be found which might be proved to be located in accordance with the statute. Arrangements were also made with Mr. Myers by which I obtained the right to occupy the summit of the hill as a signal station, and to cut the timber on the crest obscuring the view. I ordered a signal of the secondary class constructed on the summit, and named the station Myers' Hill.

Leaving the party under Mr. Snell to search for the line and construct the signal, I proceeded on July 17th to Gommer Hill, in Lewis county, to ascertain what other station would be needed in order to connect the signal on Myers' Hill with my previous triangulation stations in the interior. Gommer Hill was the station referred to in the report on the Adirondack Survey for 1882 as the terminus of the lines of triangulation which I had measured across the wilderness from Lake Champlain. The hill is the highest of the southern elevations of the escarpment of that semi-plateau known in Lewis County as the Tug Hill range. It is located seven miles north-west from Lyons Falls on the Black river and, by aneroid, 2,109 feet above tide. From this summit the low, almost imperceptible ridge of Myers' Hill, was difficult to distinguish; but I was able to select stations to the southward and eastward with which it could be connected by triangulation. This was very important as the county line must certainly pass somewhere near it, and could thus be located and mapped in proper relationship to the other boundaries.

Satisfied in regard to this matter, I returned, on the 19th inst., to Myers Hill, and found that the axemen had cleared out the sight lines and that a good view could now be had north and south from this ridge. The direction of the true meridian was determined, and the azimuth of Pen Mount again observed. The declination of the magnetic needle was found to be 8° 09'. 6 West of true North. There was indication of some local attraction of the needle. The rock in some places, near the signal station, appeared to show thin veins of magnetite; but, when broken, the appearance was found to be only superficial.

This day was unusually clear, and, on searching the horizon to the southward, I was delighted to find a long ridge of cleared land showing sharply against the horizon, apparently just south of the mouth of Black creek and the county corner.

This was a great discovery. I saw at a glance that I now had command of the situation. Hitherto the haziness and smokiness of the atmosphere had altogether cut off from view the important fact that there was a cleared ridge to the southward of the mouth of Black creek, which would command nearly the entire length of the Oneida-Herkimer line.

The discovery gave me a new and more rapid method of obtaining the direction of the Oneida-Herkimer line — as soon as the line could be identified — by producing the line to a point on the ridge just sighted to, and then (an offset being made on the distant ridge equal to the distance of the Myer's Hill signal from the old marked trees), the true azimuth from this new trigonometrical station to the offset station to the southward, would be the true range of the line.

With the aid of the transit telescope the buildings were plainly discernible on the ridge — which was estimated to be ten or fifteen miles distant — and I made a careful sketch of a group of houses and barns, together with the fences and clumps of trees upon the ridge, as seen through the telescope. This sketch would enable me to identify the locality and select the station on the high ridge to which I resolved to proceed at once.

Directing the transitman to commence the running of an offset line on an azimuth which would be nearly at right angles to the county line, and directing him to determine the astronomical azimuth of this line, I proceeded, on the morning of July 20th, with assistant S. H. Snell and one or two of the men, by team, over rough woods-roads, across the country to the monument set in 1881 at the intersection of the north line of Service's patent with the west line of the Matchin tract.

A renewed search was now made for ancient records to identify the boundaries and corners of Service's patent. The early records of the State show but two references to the patent, neither of which are of practical value in identifying and proving its boundaries and corners. They have the vague interest of giving the earliest spelling of the name, making it "Servis," which is not the orthography as accepted at present.

The only Colonial record I have found, that gives even the fragmentary bounds of the patent, is the original manuscript dated August 4th, 1768, and recorded in Vol. XXIV of Land Papers, p. 158, Sec'y State's office. This manuscript recites that:

"Pursuant to a warrant from his Excellency Sir Henry Moore "Baronett Captain General and Governor in Chief in and over the "province of New York, and the Territories depending thereon in "America, Chancellor and Vice Admiral of the same," &c., had "surveyed for Peter Servis, Moses Tibbit, Peter Servis Jun'r., Samuel Rannion, Peter Miller, Lucas Veder, Peter Frederick, Stephen "Hipp, Michael Russell, Peter Fias, Coenradt Creutzenburger, "Michael Gallenger, Andreas Snyder, Nicholas Shafer, George Hipp, "Johannes West, Adam Rupert, Francis Beard, George Keep,

" George Stam, Lawrence Leman, Mathias Link, Thomas Morgan
" Joseph Mordaunt and John Simms, all that certain tract of land
" * * in the County of Albany * * purchased by his
" Excellency from the Oneida Indians by deed bearing date the first
" day of October, 1766," * * etc., (giving no statement of the
" chained distance of the north line, but only its bearing) " south
" seventy-three degrees and thirty minutes east to Canada creek, and
" then down the stream of said creek as it runs," &c., * *
" containing twenty-five thousand acres of land and the usual allow-
" ance for highways."

" Given under my hand and seal the fourth day of August one
" thousand seven hundred and sixty-eight.

"ALEX'R COLDEN,
" Surveyor General."

This is all that affects the county line question in this ancient document — if it affects it at all. It does not tell what the corner on the Canada creek was, whether stump, stone or tree.

In the Comptroller's office is a map (old No. 10) which shows a very ancient and faded representation of Service's patent and adjacent tracts in minute proportions, without scale or distances being shown. On this map an allotment is shown which certainly never was made, as the lands are now held under other and different subdivisions. This map is without date or record and does not tell what the corners of Service's patent were. It is, therefore, of no value in this discussion. Such being the indefinite condition of the official records, I now made search and inquiry within the limits of the patent itself to see if no trace of accurate records could be found.

At length I fortunately learned that Mr. Henry Broadwell, of Prospect, Oneida county, had in his possession the field notes of Service's patent.

These important records he very courteously placed in my hands, and I was now possessed of the documentary evidence necessary to prove the lines of the patent upon which the boundaries of the counties depended.

The title of the manuscript, which is owned by Charles A. Mann, Esq., states that this is —

" A field book of a tract of Land formerly known by Service's
" patent, but now the property of Garret Boon, Esq., Situate in the
" county of Herkimer and State of New York. Surveyed into lots
" in 1795. By Calvin Guiteau."

The following is a verbatim copy of the field notes of the boundaries of this important patent:

"Beginning at the N. W. corner of a tract of land granted to "Thomas Gage and others at a rock maple sapling cornered and "marked W. T. G. G. B. 1793 & 1795 standing on the W. bank "of West Canada Creek, and runs from thence as the needle pointed "in the year 1793 S. 34° 30′ W. along the boundary of said tract "603 chains 65 links to the S. W. thereof a beech tree cornered and "marked S. W. T. G. B. 1795 Standing in the north boundary line "of Cosbey's Manor, thence along the North boundary line of the "last mentioned tract N. 55° 30′ W. 56 chains 60 links to the S. E. "corner of a tract of land the property of John Kelley a beech tree "cornered and marked S. W. J. H. W. 1793, 1795, thence along "the East boundary line of last said tract N. 14° 30′ E. 339 chains "14 links to the N. E. corner thereof a rock maple sapling cornered "and marked H. W. J. A. G. 1795, thence along the N. boundary "of last mentioned tract N. 55° 30′ W. 71 chains 75 links to a "beech tree standing in the west bounds of Boon's Patent, cornered "and marked G. B. 1795 standing 1 chain 50 links from the bank "of Nine mile creek on a [*course*]* of S. 14° 30′ W. thence N. 14° "30′ E. along a line of marked trees. The bounds of a tract of "land granted to Henry Lord Holland, and also a tract of land belonging to Hon. Baron Stuben 668 chains 8 links to the S. W. "corner of a tract of land granted to Klock and others at a stake "with stones around 44 links N. N. W. from a large rock maple "tree cornered and marked G. B. 1793 & 1795 No. thence along "the bounds of last mentioned tract a line of marked trees S. 75° "30′ E. 473 chains to the Canada creek at a water ash tree standing "near the bank of said creek cornered and marked G. B. 1793 No. "8, 1795, thence down along the bank of said creek as it winds and "turns to the N. W. corner of a tract of land granted to Thos. "Gage & others, being the place of beginning containing 23,609 "acres and 34 rods of land."

We were now in possession of records which told where the northeast corner of Service's patent really was, and how and in what manner it had been originally located and marked. This point was described as "a water ash tree standing near the bank of said creek."† I had had some question in my mind whether the original survey had not made the corner in the centre of the stream, whose bank forms the east bounds of Service's patent; but the language is explicit; it does not refer to a tree standing on the water's edge or on the bank of the stream, but "*near the bank*," and this tree it was that made the corner.

---

* The word [course] is inserted.

† The West Canada creek.

Now, *how near* the bank was this "water ash tree?" I have heretofore explained the character of the promontory upon which the line (locally called the north line of Service's patent) terminated. This alluvial flat was here almost destitute of timber, and it seemed probable to me that the "water ash tree" was marked as the corner because it was the last line tree or compass tree — the rest of the bank being swampy brush, scrub-willows and elder bushes.

The fact that the west line of the Matchin tract, which was next adjacent on the north, started, not from the bank of the West Canada creek at the extreme end of the promontory, but from a point some distance westward (up the neck of land) on what was called the Service line, as located by me in 1881, had led me at that time to believe that the Matchin line ran north-westward from a well defined corner; and that that was the north-east corner of Service's patent. It was at the intersection of these lines that we had placed the stone monument which marks this south-west corner of the Matchin tract. Proceeding to this monument the instruments were placed in position and the estimated azimuth of the County line laid off, with a view to producing the line southward toward the clearing upon the ridge which I had seen from Myer's Hill. It was exceedingly vexatious to find that the forest upon the farther bank of the creek prevented the immediate trial of this method, and rendered it necessary to multiply stations. From a clearing to the west of the monument, sight was had of an elevated sand-dune to the southward, which was apparently right in line, and but for the intervening forest, might be visible from the monument. Some trees were cut on the opposite side of the Creek, but I was still unable to see the sand hill. Resolved to find some way out of this cul-de-sac, I ran a line on a true azimuth of North 5° 14′ West across the flats, as the approximate bearing for the county line. The axemen clearing the line we reached, after twice intersecting the meandering waters of the West Canada, the top of a little bluff on the north shore of a bend in that stream. From this bluff I at last obtained a view of the lofty sand-dune. Back-sighting with the transit upon the monument at the corner, the telescope was elevated, and to our delight bisected almost the exact crown of the dune, which the men named Lucky Hill by acclamation.

A flag was placed on the newly-discovered hill and set in line by transit, and then the hill was reached by a roundabout march of about a mile, and ascended and occupied as an instrument station. The summit was found to be a projecting shoulder or headland of a sandy plateau which follows the south bank of the West Canada some distance back from the stream. Its elevated, rounded summit had evidently once been in part drifting sand, and the station was consequently named "High-dune."

High-dune was indeed a fortunate station. From it, the flags set north of the monument were visible, and by a little cutting to the southward we obtained a view of an elevated, cleared ridge, apparently a mile or two away, which seemed to be the very ridge observed from Myer's Hill.

The station on High-dune was made permanent, and the direction of the true meridian was carefully determined. The declination of the needle was found to be 9° 26′.7 west from true north at 10 A. M. on July 21st at this station. High-dune, I also discovered, was available as a tertiary triangulation station, but unfortunately was too low to afford a view of the Myer's Hill offset station or of Pen Mount or Gommer Hill.

On the following day (July 22d) I proceeded to the high ridge, toward which, in order to avoid any mistake, it was necessary to march directly. This ridge when reached was found to be a very commanding point, and from it at length we beheld Myers' Hill, and my telescope soon showed me, that the men at that station had not been idle during my absence. The signal was now completed on the summit, and showed finely against the sky in the lane which had been cut across that ridge. But the hill, on which we now were, did not correspond in topography with the telescopic drawing made on Myers' Hill, and somewhat mystified, we searched still further south, and saw at length still ten miles distant, the ridge with clearing and buildings that I had so carefully sketched. That ridge was evidently too distant to be available, as from it the county corner on the West Canada creek could not be seen, and much additional triangulation would be needed to obtain the distance. There was no time for such delays as would be occasioned by occupying so distant a station.

The problem before us seemed more difficult now than at any time heretofore. It was seven miles north of the corner to the first of the marked trees, which by any evidence could be proved to be a section of the Oneida County line and, even from this commanding point, the multitude of low ridges between us and Myers' Hill, cut off from view the lowlands where the line ran, and we were only able to see the Myers' Hill ridge with its elevations and depressions forming the horizon in that direction.

At this time I received despatches from Albany which made it necessary for me to return to the Capitol, and leaving assistant Snell to see what could be done in the way of an offset along this first ridge, I started at 3 o'clock in the morning for Forestport, which I reached at 6:45 in the morning. Here instructions were sent to the survey party to measure offsets both north and south of Myers' Hill, and to place flags in line upon the tops of the loftiest trees that were located at the terminus of the offsets. The transitman was directed to remain on Myers' Hill and obtain the true meridian and the azimuth of the offset flags by astronomical observations. One signal party was sent northward to Moose river to ascertain whether a flag-staff signal could not be lashed to the top of one of the highest trees (on the marked line found in 1881 at the crossing of the river) at the same offset distance to the west that Myers' Hill was from the line, and the corresponding offset proposed south of the High-dune and the Barhydt ridge.

July 28th, I learned that the offset work had been found almost impracticable, and telegraphed the engineers to meet me at the village of Grant, Herkimer county, which I reached from Prospect station on the Utica and Black river railroad, early on the morning of the 29th. The assistant in charge of the party arrived at evening with the transitman and signalmen. They reported the requisite astronomical and azimuth work done, but had found the Oneida county line very irregular and uncertain. A vertical signal pole had been lashed into the top of a high tree in line to the northward of Myers' Hill, at the terminus of the offset line from the nearest marked tree found. This work had been difficult and dangerous, as the trees were gigantic hard woods without limbs for sixty feet, and too large to give aid to the arms of the climber, even when his feet were provided with climbing irons. This high signal staff had been found to be affected by the wind so that a very exact determination of its azimuth was difficult.

To the southward, on Barhydt Hill, the offset line ran into a fine grove of sugar maples which obstructed the view to Myers' Hill and, as the owner would not hear of any cutting of the timber, this offset was impracticable. It was now suggested that a large balloon could be sent up and held by ropes over the north end of the line of marked trees, and elevated to the height of a mile so as to show above all the ridges and serve as a signal. This novel plan was rejected. A lengthy consultation was now held and the stations, so far occupied, were platted and the points where marked trees had been found noted. Giving the present question due consideration, I came to the following conclusions:

(1.) That inasmuch as the object of this work was to obtain the true direction of the Lewis and Herkimer county line, and the astronomical equivalent of magnetic north in 1802, it was necessary to obtain a knowledge of the azimuth or deflection from the true meridian of the line, run in 1802, on the magnetic meridian between Herkimer and Oneida counties.

(2.) That a right line of known astronomical azimuth, if made to thread the old compass line, could, by offsets to right and left to the old line trees, and subsequent computation, be made to afford the true azimuth needed.

I therefore resolved to settle the question, by running a transit line from the Service patent corner, to the marked trees on Moose river, nearly 20 miles to the northward; the survey party to measure offsets to all marked trees which proved to be a portion of the old Oneida county line "north" in 1802. The terminus of the transit line from the signal on Myers' Hill, to the marked trees (supposed there to be the north end of the Oneida county line,) was now marked by a stone monument.

Here arose one last difficulty. The reference line, proposed to be run by transit, must have its direction located so as to "thread" the irregular compass line of 1802, and render it easy to find and identify and make offsets to the old compass trees. The device which I had successfully employed in 1872, in searching for the location of remote lakes in the wilderness, now became again of service. I resolved to have large rockets sent up at night from the marked trees at the east foot of Myers' Hill, and to use the range thus secured, with its astronomical azimuth as the direction of the trial line. Signal rockets were, accordingly, sent for, and after many trials and watching both in clear and stormy nights, rockets sent up by signalman Wheeler, from the station eastward of Myers' Hill, were observed by transitman Hawkins from the Barhydt hill station, and referred to the lamp-signal at the station in the valley below on High-dune. The azimuth of the rocket station was found, by observations of *Polaris*, to be nearly five degrees west of the true meridian. This was very near the azimuth of the north offset flag on the Woodhull river range as observed from Myers' Hill.

The next step was to settle upon the initial or starting point from which to run the transit line northward. I greatly regretted that no trace could be found of the "water ash tree" described in the original records as the north-east corner of Service's patent. The length of the north line of the patent (473 chains), if resurveyed from the North-west corner to the North-east corner, should give the position of that corner. Six miles of additional measurement was, however, to be avoided if practicable, and I resolved first, to trace the bounds of lot No. 8 in Service's patent, which occupied that corner of the tract of which I had the field notes. The description of the corners and boundaries of this lot, as given in the field-notes so fortunately found, are as follows:

"LOT No. 8.

"Begins at a spruce tree on the bank of the Canada creek marked
"8. 9. thence N. 14°½ E. 20.50 chains at a post standing in the N. line
"of the Patent, a beech tree N. E. 7 links, marked 7. 8. thence S.
"75½° E. 53 ch. along the Patent line to a water ash tree standing
"near the N. bank of the Canada creek marked 1793 G. B. No. 8.
"1795, thence down along bank of said creek to the place of be-
"ginning containing 66 acres of land."

I inspected the descriptions in the deeds of the owners of the property in and adjacent to Lot No. 8, and found that they conformed to the above description. Procéeding to the Adirondack Survey monument of 1881, at the south-west corner of the Matchin tract, the north line of Service's patent was traced north-westward 53 chains, and the north-west corner of the lot was found just beyond the road leading southward to the Twin-rock bridge. This was firmly marked by a post of a fence which here made a right angle. Near by, south-east, were very old beech trees bearing witness marks, easily discernible. This corner was, therefore, sufficiently proved, and from it the resurvey of lot No. 8 was begun. The west line of the lot was first remeasured and was traced southward to the bank of the West Canada creek, here very abrupt. This side of the lot was found to have a length of 1,373.50 feet or twenty chains and eighty-one links, and was measured with steel ribbon, held at ten pound tension by spring balances with levels attached. The original drag-chain survey gave the length at 20 chains and 50 links; being 31 links less than the present survey. This would be 20$\frac{46}{100}$ feet scant of the present measure. A slight projection of level land exists just above where this line strikes the creek and it was probable that an alluvial shore of this width had extended along below the bank.

The original magnetic bearing of this line had been S. 14° 30′ W. The present bearing was S. 19° 17′.5 W., a change since 1795 of 4° 47′.5 to the westward in declination. The allowance usually made in this section of the State at the present time in retracing magnetic lines of that age is about 4° west. Returning to the north-west corner of lot No. 8, the north line of the lot was next retraced, the measurements being made in the same rigorous manner with steel ribbon — kept level under tension and alligned by transit — directly along the old north bounds of the Service patent, identified by the old marks, by the field notes, by descriptions in the deeds of owners, and by the inhabitants.

This line brought us at length directly to the stone monument on the promontory, set in 1881, as the south-west corner of the Matchin tract, and the south-east corner of the DeWitt tract. It forms the boundary between the farm now owned by Wall, on the south, in lot No. 8 of Service's patent, and that of Bronson on the north, in the DeWitt tract. Commencing at the corner near the marked beech trees, the line, after crossing a small brook, at 350 feet begins to ascend to a ridge of sandy hills, from which it descends steeply at 1,800 feet to a tree swamp containing water-maples and black-ash trees; the latter being the "water-ash" trees of the ancient phraseology. The monument was reached at a distance of 3,457.50 feet from the north-west corner of lot No. 8, about 40 feet less than the original measurement, which was 53 chains or 3,498 feet. The measurements were continued for this distance toward the bank of the West Canada, opposite the mouth of Black creek; (the outlet of Jerseyfield Lake) but no mark or trace of any other corner was to be found. Near the monument embedded in the ground was found the dark water-soaked trunk of a black-ash tree; and at a distance of two hundred feet east of the monument another trunk of the same species of tree, rootless and branchless, was found bedded beneath the bank; showing that the shore was changeable and made and unmade by the freshets.

On the whole, I judged it best to commence the Reference Line from the stone monument that I had set in 1881, which was unquestionably the corner of the De Witt and Matchin tracts, and upon the Service north line. That these two patent lines should meet thus, convinced me that they started from some old patent corner; for it was improbable that they should thus intersect and terminate without cause. Now there is no other corner there but the north-east corner of Service's patent, consequently this corner of the De Witt and Matchin would be the long sought Service corner.

The north line of the Service patent has an azimuth from this monument of 99° 27′ 45″, or a bearing of N. 80° 32′.15″ W. from the true meridian. The magnetic bearing of this line on Aug. 3d, 1883, at 5:30 P. M., from the station on the bluff, (1,657.5 feet west of the monument,) was N. 69° 59 .2 W. The magnetic bearing of the line in 1795 was S. 75° 30′ E., or N. 75°, 30′ W. On this line, therefore, since 1795, there has been a change in the pointing of the needle of 5° 00′.8 to the northward. This is a large variation and cannot be equally apportioned among the 88 intervening years, as the date of the commencement of the westward movement of the needle is here unknown. It was probably between the years 1800 and 1815. Further study and research of the boundaries run and marked at that time, would probably furnish this important factor in the study of terrestrial magnetism.

The declination of the needle was found to be 10° 33′.0 West of true north at the magnetic station last mentioned. (Aug. 3d, 1883.) On July 22d, 1881, the declination at the Service monument was found to be 10° 27′.4 West. The difference is but $5\frac{6}{10}$ minutes of arc, and allowing for the difference of two years $\frac{5.6}{2} = 2'.8.$, which is the amount of the annual change of the needle to the westward at this time in this locality. Both of these results are the means of repeated observations. It is well to remark that the magnetic observations indicate considerable local attraction of the needle at some points in this vicinity.

While these measurements were being made the detached parties at Myers' Hill and the signalmen had, in accordance with instructions, broken camp and moved southward, to join us at the mouth of Black creek. At evening on August 3, the tents were pitched on the north bank of the West Canada, near where the reference line would pass, and the entire party assembled. Meanwhile the line had been cleared northward on the range adopted and a reference lamp station made at a distance of 2,766 feet to the northward. All night on the 3d into early morning on the 4th, I was busied at the transit, but clouds and gusts of rain prevented the observation of stars, and the reference line was started next morning on the solar azimuth previously determined.

Daylight on the 4th opened with storm, but the work was immediately begun and by noon—notwithstanding several severe showers—over half a mile of the base-line had been run. Every foot of the line was rigorously measured with steel ribbon, and the topography — crossing of streams, slopes, bluffs and marshes — located by measurement and sketched in detail. By evening, more than a mile of line had been run, and posts marking the location of the County line set at the intersection of the line with the highway to Remsen. So far no old line or sign of one could be discovered on or near the reference line. Not a marked tree or a fence line was to be found that ran in that direction. The country, here, was largely cleared, the lands sandy and not very productive on the north bank of the river. None of the inhabitants knew where the County line was—or even in what county their lands were, and our operations were watched with great interest — some remarking that they would now know in what county to vote. As questions of franchise, assessment and taxation and the ownership of public and private lands, depended, in all the counties affected by this line, upon its accurate location; special care was taken with every detail of the measurement.

The instrument used was a six-inch transit theodolite of superior quality, constructed by Stackpole of New York. It was adjusted for collimation by reversal in the standards. The pivots of the axis were extremely true. The object-glass was clear and good and the eye pieces superb Steinheil achromatic lenses. With the sensitive levels and high powers used, the line could be run with great precision. The station rods were held in tripods and made vertical by means of adjustable levels placed at right angles on each rod. The measurements were made with steel-tape, graduated to feet, tenths and hundredths. Temperature observations were made at each station, to bring all the measures to standard. The leveling and tension attachments to the steel-tape have been heretofore mentioned. Every care was taken to insure an exact determination of the line.

It is not necessary to give the details of these measurements. The manner in which the line was started has been given in full, in order to explain the difficulties encountered in securing the evidence on which to base the restoration of the line, and the method finally adopted.

Having thus seen this party well under way, and their work no longer involving any more difficult problem than the running of a direct transit line on the given azimuth northward, I gave them my final instructions, and hastened eastward to watch the progress of the other survey parties.

A month of routine work now lay before the party under assistant Snell. Nearly twenty miles of rough country; a forest full of fallen timber; lay before them. Fortunately woods-roads would intersect the line at many points along its southern part, and arrangements were made by which provisions would be brought by team to meet the party at such points.

The brush and fallen timber made the labor of a large party of axmen continuously necessary. The transitman, Mr. Hawkins, urged the work forward with as much speed as was consistent with the accuracy of work desired; and, notwithstanding delays caused by storm, the survey party was able to average more than 4,000 feet of measured base-line per day.

It was not until 15,650 feet of line had been run in and measured, that a section of the ancient line was found, which was located 110 feet to the eastward of the base-line.

At 16,574 feet from the corner monument the line crossed little Black creek at a bend of that stream in the forest swamp.

At 18,242 feet the ancient line was again found, now 143 feet to the eastward of the base-line; and at 21,675 feet the ancient line was again found 150 feet to the eastward of the transit base-line.

At 23,000 feet north from the initial monument at Service's patent the old marked trees were found 146 feet to the east of the base.

At 23,825 feet the old marked trees were again discovered in what is known as "bark-slash," where the cutting of hemlock trees, for the bark had left the ground almost impassable, on account of timber going to decay, unutilized. At 31,150 feet the main body of the Black river was reached and crossed, here 250 feet wide, and containing some small islands.

At 34,319 feet the old line was again found, and located by offset 125 feet to the eastward of the reference base.

At 35,476 *feet the old marked trees were found only* 51 *feet to the eastward; some local attraction having caused a deflection.*

At 38,500 feet Pine creek was crossed. Soon after passing this point the old line swerved to the left and crossed the transit line, and at 47,132 feet from the corner monument, the old marked trees were by offset 165 feet to the west of the transit line or base-line.

The old line was now irregular as though it had been roughly run or was affected by local attraction.

At 43,500 feet the little Woodhull river was reached.

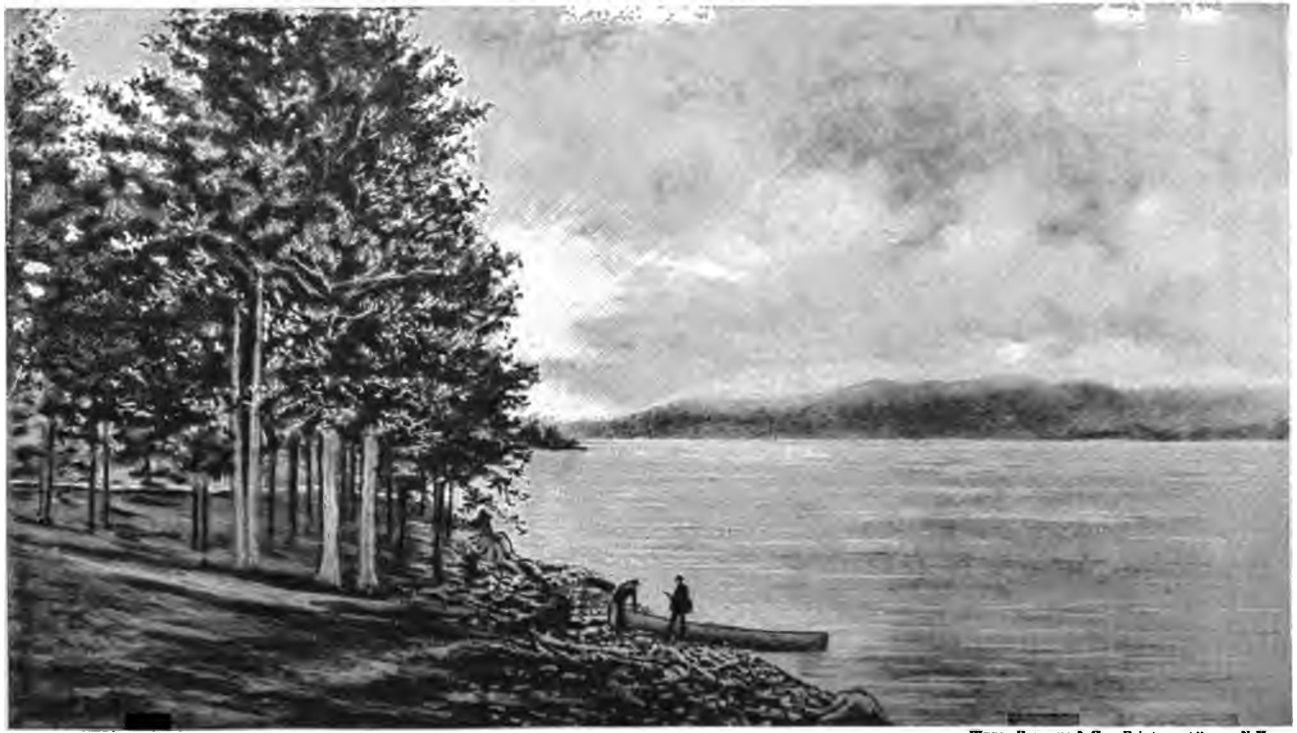
At 49,100 feet the old marked trees were found 50 feet to the westward of the transit base-line.

At 50,928 feet the old marked trees were 126 feet to the westward.

At 53,745 feet the offset from Myer's Hill signal station was intersected, and the old line was found to be located 153 feet further west than had been anticipated.

NEW YORK STATE LAND SURVEY.
VERPLANCK COLVIN,
Superintendent.

PLATE No 8. REPORT 1884



Moss Eng. Co., N.Y. Webb, Parsons & Co. Printers Albany, N.Y.

CHATEAUGAY LAKE,

VIEW SOUTH-WESTWARD TOWARDS THOMAS' POINT, FROM LANDING AT RALPHS; THE COUNTY LINE LYING BETWEEN THE DISTANT MOUNTAINS ON OPPOSITE LAKE SHORE

At 56,522 feet marked trees of the old line were found 95 feet to the west of the transit line.

At 58,255 feet *the old line trees straggled* irregularly along the *transit line.* For a quarter of a mile the old line was here easily traced and its identification was certain. There was now no question that the line we had been offsetting to, and which had crossed our line, was the line referred to in deeds and consequently the statutory line between the Counties of Oneida and Herkimer, run in 1802, and governing; as I have shown, the direction of the remainder of the line as yet unrun, between the Counties of Herkimer and Lewis.

At 64,000 feet the old line was 115 feet to the westward.

At 64,543 feet the transit line reached the Woodhull river; the line descending a deep declivity to the banks of that stream, and running over level ground for 200 feet after passing the stream; ascends a steep bank sloping to the south and east. On the south bank of the Woodhull a small stream enters the river about 125 feet to the east of the line.

At 68,400 feet the old line was 103 feet west of the transit line.

At 72,516 feet two enormous blocks of granite, lying to the south of a small brook, intercepted the transit line; transit station No. 112 being made on top of the southernmost of the two blocks.

At 73,800 feet the line was found 105 feet to the west of the transit line.

At 74,280 feet the old line is 116$\frac{80}{100}$ feet west. Here the division line of old marked trees, between the Woodhull and Cramer tracts, was found and connected with the base line by measurements.

At 88,563 feet the old line is only 49 feet west of the transit line.

At 94,700 feet the old marked trees are 75 feet to the westward of the transit line. The offset was made to the corner of lots 6, 7, 12 and 13 of the Devereaux tract, and connects that patent with the base-line.

At 96,752 feet an offset was run to little Otter lake, 1,008 feet distant, and the lake located and its form sketched.

On August 2d, having arranged the work of the other survey parties, I rejoined the party engaged upon this base-line.

The transit line was now but a short distance to the southward of Moose river; and the old marked trees, less irregular and straggling than heretofore, maintained their position at an average distance of 100 feet to the westward. The forest was here principally hard-wood, consisting of large yellow birches, beech trees and a variety of maples; together with spruce and hemlock, the former having been to a great extent cut by the lumbermen, and the latter by the bark peelers for the tannerymen. Yet the forest was dense, dark and savage, and footprints of deer and bear were observed; so that, but for the stumps and felled timber and occasional skid-ways met with, this section appeared as wild as when visited years since.

The ground was hilly and irregular, yet, covered so deeply with the forest mould, that the fallen timber, branches, leaves and moss, now decayed to a soft spongy mass, formed the only soil. Below this deposit, rocks and boulders and earthless gravel or — rarely — sand, composed the rugged basis, over which the tree roots twisted in their efforts to obtain food. All the humus and the "wooden soil," the forest trees and plants have themselves, obtained both carbon and hydrogen, from the atmosphere. Neither the rock, the boulders, nor the sands contain those elements. The substance of this entire forest has been and must be derived from the atmosphere. The native rocks contain no carbon, and the mass of carbonaceous material, which goes to make up this forest, can only have been accumulated during countless ages from the carbonic dioxide, diffused in the air and absorbed as food by the trees and plants.

The deep mould or "duff" was a source of much annoyance to the transitman. The tripod legs of the instrument would at times descend so deeply into it, on one side or the other, as to render it difficult to level the transit. Holes had often to be dug in the duff around the tripod legs, to insure a firm placing of the feet upon the rock, and again temporary scaffolds of timber built for the observer to stand upon, in order to prevent his weight pressing upon the elastic "duff," and thus affecting, however slightly, the support of the instrument.

At 98,434 feet an offset was measured westward from the transit line, and the old marked line was found 85 feet distant.

At 98,921 feet the old marked line had made an angle and was now 36 feet nearer than at the last offset station; the offset distance being 85 feet.

At 100,132 feet the old line had wandered off again further to the westward, and was now 94 feet distant.

We now approached a bluff from which, glistening among the trees, we could see the waters of Moose river.

At 102, 123$\frac{58}{100}$ feet from the Service monument, the south bank of Moose river was reached by measurement with the steel ribbon. The waters of the stream were here too deep and too wide to admit of direct measurement. A raft was constructed from the trunks of dry spruce trees, and the baggage, tents and provisions of the party ferried over. In transporting the men an accident occurred which might have been serious had not the raftsmen been expert lumbermen. As it was, the party then on the raft were thrown into the river; the raft breaking up in their efforts to maintain themselves upon it. The men escaped to the shore, a new raft was constructed, and the whole party was by nightfall on September 3d encamped on the north bank of the river.

While the ferrying of the party was proceeding, I directed the measurement of the base-lines on the narrow alluvial flat along the river bank. All three angles of each of the triangles were measured; the two base-lines having their initial point in common. This initial point was the last station of the transit line, on the north bank of the river. From this the sub-base lines were measured, one to the east and the other to the west. The length of the side, common to each triangle, forming the width of the river along the main transit-line, by computation from each base, differed one one-hundredth part of a foot. The mean of the two measures was adopted and the transit line continued northward.

We were now approaching the goal. Moose river had for a month been on every tongue, and many estimates had been made as to the date on which the line would reach the south bounds of Macomb's great purchase, and how far the line would come from the most westerly corner of the Moose river tract, and the monument set in 1881, on the boundary between the Moose river and Brown tracts.

The party had met with a rough and tiresome experience. Their line had run through slashes of fallen timber, over ridges and broken ground where provisions and baggage had to be carried, with heavy loads upon the back, each day the camp was moved. Often water had been difficult to get. Now we were camped upon the banks of the river, whose clear, pure waters swept swiftly by. The rush of the rapids, mingled with the whispering of the winds among the tree tops soothed the weary that night. With provisions plenty in camp, pure water in abundance, and the work progressing favorably, the men were joyous and contented, and many a song arose around the camp-fire, when the dry spruce logs blazed brightly and cast their ruddy glare far out across the stream towards the dark wall of forest on the opposite shore. Soon the tired men had sunk to rest, and the hoot of the owl alone sounded above the whisper of the waves and winds.

September 4th proved bright and pleasant and all were soon astir.

Occupying the last station made on the preceding day with the Solar Transit, I obtained the azimuth of the line. This done, work was resumed, and at 1 P. M. the south line of Macomb's purchase was reached; being here the south line of the Brown tract, and the north line of the Moose river tract.

The total distance run was $103{,}824\frac{18}{100}$ feet or $19\frac{6636}{10000}$ statute miles from the Service line monument on the West Canada creek.

The reference monument placed in 1881 on the south bounds of Macomb's purchase at the point where the old line trees (then believed to be the Oneida county line) were found to terminate, was now found to have been correctly placed, and was determined by these measurements to be the most North-easterly corner of the County of Oneida, and located upon the south bounds of the County of Lewis. The transit line terminated $102\frac{67}{100}$ feet to the eastward of this monument, the last-mentioned distance being the correction distance to be applied to the azimuth of the reference line.

The mean azimuth of the reference line, or base-line, has been computed from the astronomical observations at 175° 03′ 13.″21; or north 4° 56′ 46.″79 west from the true meridian.

Computing the value of $102\frac{67}{100}$ feet for the distance $103{,}824\frac{18}{100}$ feet, we obtain as a result of the measurement of the base-line, the following correction to the astronomical azimuth (Z):

$$(1.)\quad \frac{R \times \omega}{\beta} = -Z_2 = -0^\circ\ 03'\ 23.''97.$$

which being applied to the azimuth on which the reference line was run gives the azimuth of the county line from the South—as

$$(2.)\quad z_1 - z_2 = Z = 174^\circ\ 59'\ 49.''24.\ ^*$$

from the true meridian, or North 5° 00′ 10.″76 West; which is the determination, by these measurements, of the legal meaning and astronomical equivalent, for this locality, of the word "North," as used in the Statute, and as the true geodesic direction or bearing required by the general law. (*Revised Statutes of* 1848, *Chap.* 2, *Part* 1.)

The declination of the needle, therefore, along this line in 1802 was 5° 00. 1 to the west of true north. This is an important scientific fact, inasmuch as the years, between 1797 and 1802, are held by some authorities to have been the local time of no variation. There are records which indicate that on Oct. 1st, 1797, in the adjacent County of Jefferson, the magnetic needle was upon the true meridian. The tracing of this line of ancient compass trees, however, after allowance has been made for the offsets, shows that in this section of the State, the magnetic needle at the time when this compass line was run was over five degrees to the westward of the true meridian; at the very time it was supposed to have little or no variation.

---

* Convergency — 1′ 24.″05.

That this is generally true for almost the entire southern and eastern forest area of our northern or Adirondack counties, I have been able to prove by the re-survey with solar-transit of a great number of the ancient compass lines.

The comparison of the magnetic and true bearing of ancient lines in the counties of Essex, Warren, Hamilton, Herkimer, Lewis, and Clinton, show that the lines run in the supposed years of no variation, were in the wilderness generally lines of westerly declination, at that time, of from 3° to 5° from the true north.

I have elsewhere discussed this subject at some length, and will, therefore, confine the present observations to the special base line here under consideration.

The fact that this "north" was actually a north-west line did not surprise me, as I had anticipated such a result.

The present declination of the magnetic needle at the north end of the line just run, was found to be 10° 54′ west of true north.

The declination in 1802, as shown by the old line traced, was almost 5° to the westward of true north.

It is, therefore, evident that since 1802 the north point of the needle has moved still further to the westward about 5° 54′.

If we were able to determine the exact time when the westerly movement commenced, (or the amount of the movement in arc and the direction of the annual variation,) we should be able to obtain the mean annual change of declination.

As it is, the 354′ (5° 54′) total change in eighty-one years is probably affected by both the easterly and westerly movements of the Earth's directive magnetic force, and is to be regarded as the resultant of two unequal movements. This is an unquestionable fact. But for this, we might assume the mean annual change to be represented by $\frac{354'}{81}=4.'37$ to the westward.

The important fact, in search of which this long line had been surveyed with so much care, had now been attained.

The reports received from the other survey parties in the field of the expense of their sections of work showed me that it was not advisable to attempt, for the present, the running of the east line of Lewis county.

The azimuth of that line had now been determined. To run the Lewis county line with transit—a distance of thirty-five or forty miles through dense forest — and to properly monument it, and test and maintain its allignment by additional astronomical observations, called for more means and time than was now at my disposal. Consequently, on the morning of September 5th, I announced to the survey party, that the work of that Division would cease for the season. All was at once activity in the camp. Knapsacks and pack-baskets were brought forth, blankets folded, the instruments boxed, and a pack-horse brought from the settlement was loaded with a heavy portion of the impedimenta of the camp.

The scene at the breaking up, is shown in plate No. 2, from a photograph of this party which I took at the time, and gives a view up Moose river from the north bank at the crossing of the county line.

Soon the tents were struck and folded, the packs, tripods, transit-staffs and knapsacks shouldered; and by a rapid march the party reached the settlement of Moose river tanneries the same day at noon. They were immediately paid off and returned to their homes.

CONCLUSIONS.

The object in retracing the line between the Counties of Oneida and Herkimer has been sufficiently explained.

The law of 1883 required maps to be made of the several counties of northen New York, and to do this it was necessary to know the true direction or range of the lines or boundaries of said counties.

The statutes of the State made the magnetic meridian at the time when such lines were established by law the governing meridian of all such lines.

The direction of the magnetic meridian in that locality in the year of 1802 had therefore to be ascertained.

A tradition existed that a portion of the south part of the long meridional west line of the County of Herkimer had been run by magnetic compass in 1802, and formed the boundary between the Counties of Oneida and Herkimer.

Research showed us marked trees which were locally called this particular line; but no sufficient documentary evidence existed to prove that it was authoritative, while an examination of the line showed that it was irregular in direction.

Further research brought to light the documentary evidence, proving the north bounds and the north-east corner of Service's patent.

The intersection of the several boundaries of the Matchin and DeWitt tracts upon the north line of the Service patent, at one point near the north bank of the West Canada creek, was accepted as determining the location of the sought-for corner and initial point. The existence of a considerable line of ancient marked trees, far to the northward, which were closely identified by reference to deeds, as being a section of the old Oneida county line, and of similar marked trees near Moose river, was accepted as the northern extremity of the old magnetic north line, whose true astronomical direction was needed in the preparation of the maps.

From these premises the following conclusions were reached:

(1.) That the running of a transit line from the north-east corner of Service's patent, to the marked trees, called the Oneida county line, would discover whether such line were continuous, and identify and settle its location officially.

(2.) That the true astronomical azimuth or bearing from the south monument, set by the Adirondack Survey in 1881, to the marked trees on Moose river, would be the average magnetic declination in the year in which that line was run; or the azimuth angle, which the magnetic north (called for by the statute) made at that time with the true meridian. It was upon this theory that the line was retraced, and the survey, heretofore detailed, afforded the following results as

FINDINGS.

I.

The word North, as used in the Revised Statutes, referring to the west bounds of the County of Herkimer, is to be interpreted as a true astronomical bearing of north five degrees and ten seconds west, or an azimuth of 174°, 59′, 49″.24.

II.

That the boundary line between the Counties of Lewis and Herkimer, run upon this azimuth, will be in compliance with the statute, within the limits of the mean position of the ancient line used as reference and proof.

SECTION IV.

HAMILTON COUNTY.

AND

PORTIONS OF SARATOGA AND WARREN COUNTIES AND FULTON COUNTY.

The limited time within which this report must be transmitted to the Legislature, compels me to be brief in the account of the work accomplished in the other counties within the limits of the survey. A report upon systematic measurements made for the purpose of settling disputed boundaries, or for securing exact information, should treat the question: *first*, as to the object and purpose of the survey; *second*, it should state all the existing conditions of the question prior to the survey; *third*, it should give the manner in which the research was made; and *fourth*, give the results and conclusions and the facts found in regard to any disputed boundary.

These rules have been followed as far as possible in the present report.

As the object of this survey was to settle the disputed boundaries, which enclosed all the outlying or detached portions of the State lands, the general survey of each and every piece and parcel of the State's property was not attempted. Only the settlement of those vexed questions which laid open the detached and separated tracts to despoilment were undertaken, for the means afforded were far too limited to admit of the survey of every piece and parcel of the State's vast possessions.

In the County of Hamilton the State owns vast tracts of forest; more, in fact, than any other county of the Commonwealth.

Within the limits of this county are upwards of 1,000,000 acres of dense woods, much of it primeval wilderness, and of this area the State now owns 252,072 acres.

This land is so wild and inaccessible as to be secure from the plunderers who cut out the best butt logs in the spruce forests near the settlements.

The lands nearest the settlements, therefore, and in the vicinity where lumbering operations were being carried on, needed the most attention; and investigation led me to decide that the lands in the county of Hamilton, which most immediately required survey, were tracts in Palmer's purchase adjacent to and in the counties of Saratoga and Warren; the lands in the Benson township, and lands in the southern and western part of Totten and Crossfield's purchase in the central part of the county.

The retracing of the boundaries in these sections was entrusted to Mr. J. Francisco, who had accompanied me on previous land surveys, and was acquainted with the methods of work in use upon this survey, and with the boundaries of most of the larger tracts.

The first work undertaken in the county of Hamilton was the restoration and monumenting of the south bounds of Benson township — the gold mining district — in which a large number of lots are owned by the State.

This line forms, also, the south boundary of Hamilton, and the north boundary of the county of Fulton.

On August 7th, assistant Francisco, accompanied by surveyor Kelly, and their topographer, chainmen, axemen and guides, began this section of work, where the line of Benson was unquestioned, and proceeded to trace it westward toward the south-west corner, which was involved in doubt, and made lot-lines in that direction, somewhat uncertain. By careful search the old line was found and traced; blocks being cut from the old trees which proved the line and carried the original survey back to the year 1793.

During the interval of ninety years the bearing of the line, which was originally due east and west by the magnetic needle, had changed to North 85° 30′ West, showing a variation in the declination of the needle of 4° 30′ since the time of original survey. Stone monuments were set at seven of the principal lot corners, identified by marked trees and lines of lots, showing the ancient marks, the tree trunks now often dead and crumbling to decay.

A notable exception, to the generally mature condition of ancient timber, was met with upon one of these lines in the case of a yellow birch tree, four inches in diameter, which was found to have been marked in the preceding century. This tree was still, apparently, young and thrifty. Its growth, since 1794, had been very slow, and the experts were amazed at the appearance of ancient looking linescores, on its stem. Indeed, it was not until a block had been cut out, and the rings of the wooded growth — thin almost as tissue paper — had been counted, that they were convinced, that this young looking tree could have been marked, as a line tree, at so early a period.

At the south-west corner of the Benson township, assistants Francisco and Kelly found the boundaries, as shown by the ancient marked trees, to be in a very complicated condition. No less than *three* marked corners were found, each apparently the only true corner of the Benson township.

The true corner was, at first, passed by the survey party. Following the ancient line of marked trees, they did not notice the intersection of the west line of Benson, expecting to find it at the termination of the old line. What was their surprise, therefore, when the long and difficult line at length brought them to the dead trunk of a mighty spruce, whose bark was covered with the "honorable scars,"—which, like battle decorations, gave it dignity and value, above all the other aged trees,— to find that no proper system of lines cornered there.

Thus they came to and rediscovered the very tree described in the original notes of the survey of Glen, Bleeker and Lansing's purchase. This was the veritable tree referred to in the record signed by Simeon De Witt, dated Albany, October 27, 1794.

" All that certain tract of land situate in the County of Mont-"gomery on the north side of the Mohawk river beginning at the "north-east corner of a tract of ninety-four thousand acres of land "granted to Henry Glen and others, commonly called Jerseyfield, "*at a spruce tree standing about two chains north from a small* "*lake and marked with a blaze, and two notches below on three sides,* "*and the letters C. G.; B. B.; A.; S. L.* 1793." * * * * *

This was the tree, but it was not the north-east corner of the Jerseyfield patent for the records and survey of the Jersyfield line had shown that this corner was in the " little lake " discovered by Isaac Vrooman.

Yet, the field notes of *Lawrence* Vrooman, giving the original survey of this Benson township, begin. "at the north-east corner of "a certain tract of land lately granted to Cornelius Glen and others" (the Glen, Bleeker and Lansing purchase), "and runs thence along "the same west 1230 chains to the north-east corner of a certain tract "of land commonly called Jerseyfield, being also the south-easterly "corner of a certain patent lately granted to Jonathan Lawrence and "others, then along the same N. 30° E. 300 chains," etc.

Thus Lawrence Vrooman is found to have believed,' that the adjacent corners of the Jerseyfield, Lawrence, Benson and Glen, Bleeker and Lansing patents, were all at one and the same place, and that that place was the old spruce tree above described.

Surveyors Francisco and Kelly now made careful search for the line, which Lawrence Vrooman speaks of, as having been run N. 30° E. in 1795.

No line was to be found running North 30° East, from the ancient spruce tree; nor, when due allowance had been made for the variation of the needle to the westward since 1795, was any such line found.

By going back eastward upon the old line, a distance of 3 chains and 56 links, Messrs. Francisco and Kelly at length found an old line extending north-eastward, which, when traced out, proved to be the west line of the Benson township, and the east line of the Lawrence tract. This line was found to have a magnetic course of N. 35° E., which, allowing for an intervening period of ninety years, is apparently what the present bearing of the line should now be. On this line were found, not only old "compass trees," but lot corners made by the subdivision lines, coming in from either side according to maps of the old allotments. There was no question that this was the division line between the Benson and Lawrence tracts.

As this point is the location of the most important corner on the boundary between the Counties of Hamilton and Fulton, too much care could hardly be given to secure its accurate survey; and strict search was, therefore, made to ascertain to a certainty the cause of this discrepancy between the ancient descriptions.

This search was soon productive of results; a stake, surrounded by a heap of stones, was discovered on the west line of Benson *and here a line was found to come in from the north-west, and corner on the Benson - Lawrence line.* This line was traced and soon identified as the "Brayhouse line," which is the south line of the Lawrence allotment, *but not the south line of the Lawrence tract*, which is located on the north line of the Jerseyfield patent, to the southward

Soon another corner, 1 chain and 54 links to the southward of the last one, was found. Here, also, was a stake, and stones. What corner this was the surveyors could not make out; and, to prevent any misunderstanding, a diagram was prepared, showing the lines and corners so far found. On this diagram, the corner last found was called corner C. On the same diagram, the location of the ancient spruce tree was denoted by the letter A; the intersection of the south line of Benson with the west line of the same by B; and the corner found 1 chain and 53 links N. 33° E. on the division line between the Benson and Lawrence tracts, was denoted D. The last may be termed the "Brayhouse corner,"

The location of the corners is shown on the accompanying diagram.

DISTANCES.

(1.) Jerseyfield line to the Brayhouse corner...... *19.57 chains.
(2.) Vrooman's corner of Jerseyfield (in lake) to true Benson corner ⊙ Lake...to B....................18.04 "
(3.) Benson corner (B) to the Brayhouse line corner (D) on diagram.................................. 1.53 "
(4.) Benson corner (B) to ancient spruce tree (now stone monument) A............................ 3.56 "
(5.) A to D.................................. 4.53 "
(6.) D to C.................................. 1.54 "

The number of corners found, disconcerted the surveyors, and they wrote to the Superintendent, for instructions. Meanwhile, in accordance with the general directions issued to them, at the commencement of their work, they replaced the old crumbling and decaying spruce tree with a massive stone monument, and resumed their measurements along the west boundaries of the Benson township.

While this party had thus been busy, assistant Koetteritz, as heretofore detailed in the report on the Jerseyfield line, had traced the original north boundary of the Jerseyfield patent, to its terminus in Vrooman's lake, nearly twenty chains to the southward of the ancient spruce tree corner, described in the old records as the northwest corner of the Glen, Bleeker and Lansing patent.

Thus the general facts, in regard to the actual location of the lines and corners of these great patents, had been ascertained.

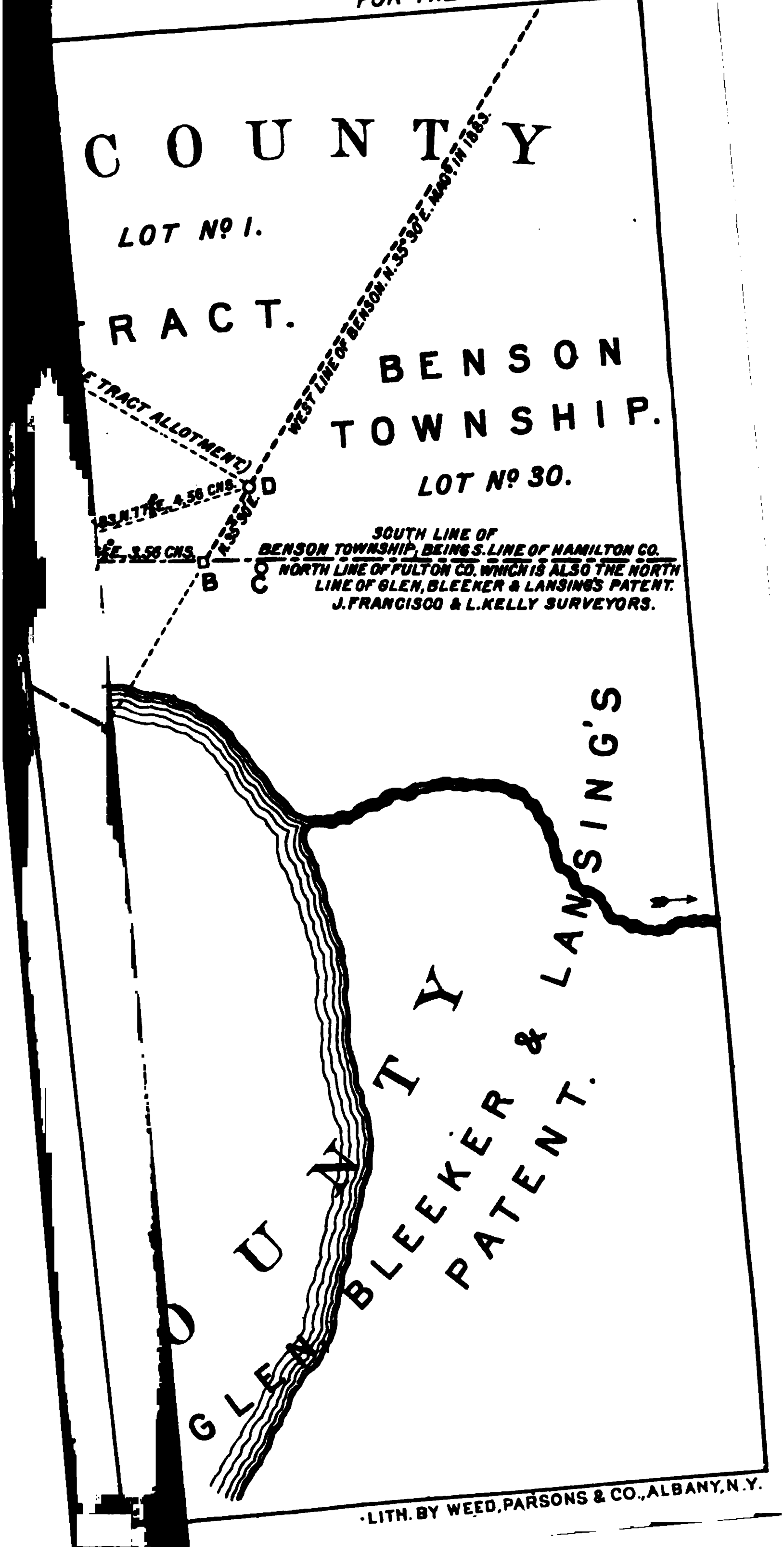
The study and comparison of these results would enable me to reach proper conclusions, and to briefly formulate, in words, the facts as found.

As soon as I received Mr. Francisco's report as to the results of work upon these lines I saw, at once, that the essential facts had been secured. I, therefore, directed the discontinuance of work in this section, and gave instructions to assistant Francisco, to take up the work in Palmer's purchase, on the eastern boundary of the County of Hamilton. The boundaries of this purchase extend also into Sara-

---

* In another place 27 chains, and another 30 chains.

FOR THE YEAR 1884.


COUNTY
LOT No 1.
RACT.
TRACT ALLOTMENT)
WEST LINE OF BENSON. N. 35°30' E. MAG. IN 1883.
BENSON
TOWNSHIP.
LOT No 30.
83 N. 77° E. 4.56 CHS.
E. 3.56 CHS.
N. 35° 30' E.
D
B
C
SOUTH LINE OF
BENSON TOWNSHIP, BEING S. LINE OF HAMILTON CO.
NORTH LINE OF FULTON CO. WHICH IS ALSO THE NORTH
LINE OF GLEN, BLEEKER & LANSING'S PATENT.
J. FRANCISCO & L. KELLY SURVEYORS.
OUNTY
GLEN BLEEKER & LANSING'S
PATENT.

·LITH. BY WEED, PARSONS & CO., ALBANY, N.Y.

toga and Warren counties, and required settlement to protect the interests of the State.

In the interval, between the transmittal of assistant Francisco's report and the return of my dispatches, he continued the survey of the west bounds of the Benson township; carrying the line north-eastward, until it crossed the Sacondaga river at Arietta. The line remarked, and the corners of the lots replaced, this section of the work, ceased at the corner of lots, Nos. 90 and 143, near the foot of Sherman mountain. The range of this line continued about N. 35° E. and little or no traces of local attractions were here observed.

The accompanying map and diagram gives an accurate platting of the work done in this section.

CONCLUSIONS.

The result of the surveys made in the Benson township bring to light three ancient corners, at or near the south-west corner of that township; and after consideration, I reach the following conclusions:

(1.) The ancient spruce tree cannot be the corner, for it is neither the corner of Jerseyfield, nor does the west line of Benson come down to it, properly.

(2.) The Brayhouse corner cannot be the south-west terminus of Benson, for the south line of the township does not run to it, if produced westward.

(3.) The indefinite corner (marked C on the diagram) is not the Benson corner, for it complies with none of the conditions governing the location of that corner.

It seems very likely that this is the corner of lots 62 and 63 in the Glen, Bleeker and Lansing patent.

FINDINGS.

As the results of these surveys, I find the following facts:

I.

That the south-west corner of the Benson township is not located at the north-east corner of the Jerseyfield patent, nor do these patents touch one another.

II.

That the ancient spruce tree was not the corner of Jerseyfield.

III.

That the south-west corner of the Benson township should be located at the point of intersection of the south and west lines at the stake whose location is denoted on the diagram as B.

SECTION V.

PALMER'S PURCHASE.

HAMILTON, SARATOGA AND WARREN COUNTIES.

Palmer's purchase is one of the oldest land-grants or patents in this portion of the State. On December 20, 1769, Thomas Palmer, on behalf of himself and certain others, petitioned the Governor of the Colony "praying that the governor purchase at their expense " and in their name from the Indians, a tract of 46,000 acres of land " in the County of Albany, on the north-west side of the south-west " branch of Hudsons river." (State land papers, 1769.)

The Governor seems to have given them generous support, for on July 31, 1772, I find on record the original Indian deed to Thomas Palmer — not of 46,000 acres, but of 133,000 acres! (State land papers, vol. xxxii, p. 43.)

This conveyance transferred to Thomas Palmer, Isaac Low, Dierk Lefferts, Peter Remsen, Robert Leake and their associates, all right and title possessed by the Indians to that mountainous, picturesque and densely forested district, whose southern limit is the north bank of the Sacondaga river, from a point a few miles west of its mouth, at Luzerne, up along the Sacondaga, to where the east line of Bergen's purchase, produced southward, reaches the river; excepting two tracts adjacent to the river — one granted to Philip Livingston *et al* and the other to Christopher Yates and John Glen. The northern limit of Palmer's purchase afterward became the south boundary of Totten and Crossfield's purchase. The eastern limit was the Dartmouth patent.

The valuable forest trees in this great patent were, on the lowlands and along the rivers, hemlock and pine, and upon the uplands spruce. The deciduous forest trees were the red beech, yellow birch and several varieties of maple. The balsam, although abundant in some places, was not in those days considered of commercial importance, and is not now esteemed.

The pine and spruce were valuable, and the purchasers, after securing title, divided the tract among themselves into several great lots.

Three grand subdivisions were first made, extending entirely across the patent from the south-west to the north-east. The southernmost tier was called the "River Division;" next upon the north was the "Middle Division;" while the last tier of lots adjacent to Totten and Crossfield's purchase was called the "Rear Division." Each of these divisions was, in turn, subdivided into "great lots," by Lawrence Vrooman, between the years 1785 and 1787.

The survey was made, of course, after the fashion of the period, with magnetic compass and drag-chain. The river division was laid out in sixteen lots of unequal size; the middle division into five lots, and the rear division into six great lots.

This was the original subdivision. The "great lots" finally came into the hands of Thomas Palmer, Philip Livingston, Peter Remsen, and Dierk Lefferts. Several of the lots were retained by the State, and thus arose names for some of the "great lots" or tracts: the Livingston tract; the Leffert tract; the Remsen tract; Palmer's lot; State lot,' etc. The irregular distribution of the lots among the owners was probably owing to their being drawn by ballot.

All of these tracts or lots are within the limits of the old Palmer's purchase, and in different portions of the purchase are different "State lots," "Palmer lots," "Livingston lots," and "Leffert lots." This explanation should be borne in mind, to prevent any misunderstanding in regard to the particular lots, surveyed during 1883, in Palmer's purchase.

Historical associations, of the most interesting character, cluster around the records of this ancient patent. Obtained from the native Indians, only after permission had been granted by the Court of St. James, under "His most gracious Majesties Royal proclama-"tion" the deed bears side by side with the signature of William Tryon, the last Royal Governor of the Colony, the Indian totem — the hieroglyphic turtle — all now alike in pale brown and faded ink; which alone attests the existence of the once haughty officers and chieftains.

It was in the rear division of Palmer's purchase that three of the most important political boundaries of the Colony of New York met at one common corner. Here the ancient counties of Tryon, Charlotte, and Albany came together, according to the quaint old map of Claude Joseph Sauthier; and here, in the dense, wild forest, the political changes which have swept over the country have only given new names to the political divisions and have left the ancient boundaries unaltered. The marked trees which separated the counties of Charlotte, Albany, and Tryon, (Royal names of Queen and Duke and provincial Governor,) still remain; but are now the monuments of the slaughtered Warren; and of Hamilton; and of the decisive battle field of Saratoga.

The geographical position of this important corner was unknown. Upon its location depended the ownership of tracts of State land, not only in Palmer's purchase, but to the northward; and the accurate platting of the maps of the counties, made it necessary to rediscover this corner and connect it with the other survey lines.

A still more important reason for a special survey in this section was the existence of disputed or duplicate boundaries, in Great lots 4 and 5, of Palmer's purchase, immediately affecting sections of State lands which are covered with timber. Here, large lumbering companies were actively engaged on the adjacent lots owned by them, and a number of old and conflicting lines having been found, disputes had arisen between the private owners and the land agent appointed by the Comptroller.

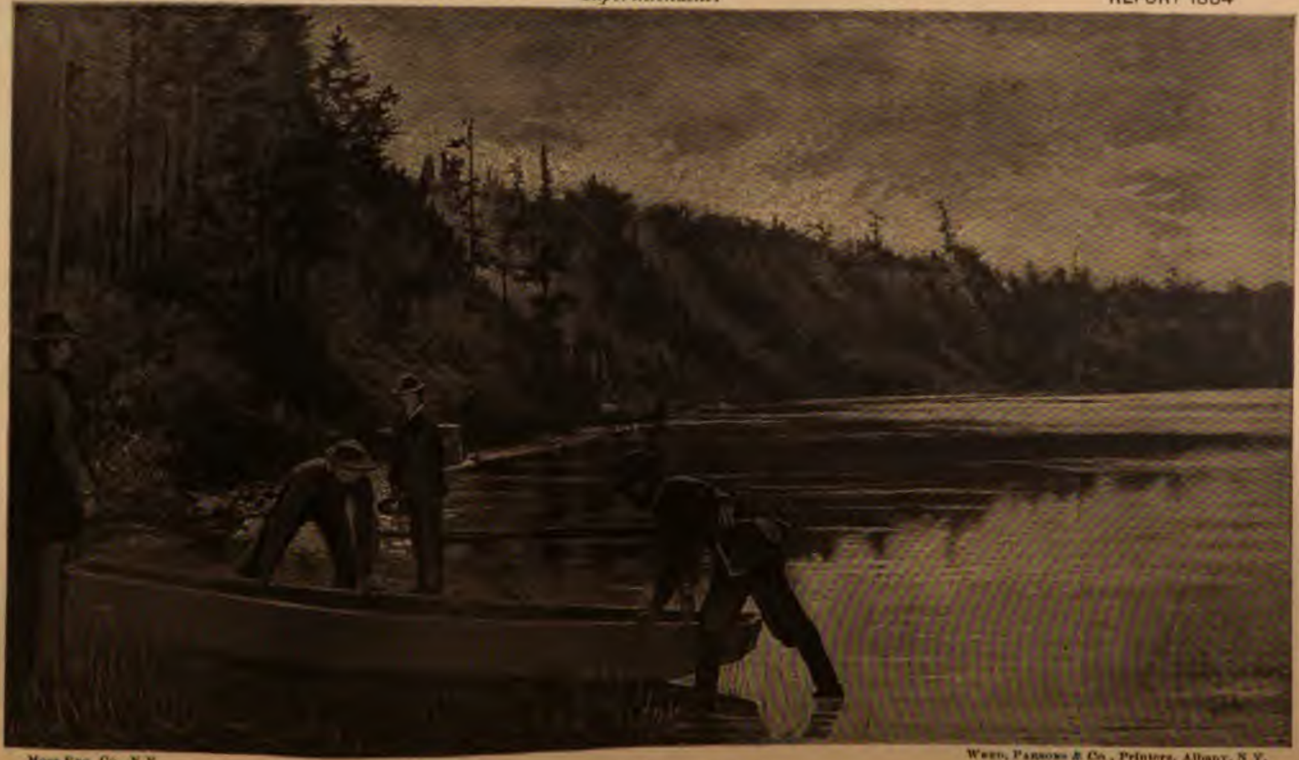
To settle the questions raised, I directed search to be made through the ancient records, and after an examination of the documentary evidence and hearing the views of the Comptroller's officers, and of the owners of adjacent property, I found that the disagreement and the origin of the controversy could be traced back to a location in Great lot No. 4.

On investigation, it appeared that after the allotment of the "rear division" of Palmer's purchase into six great lots, a subsequent sub-allotment, and second sub-allotment had been made, while there was some evidence which went to prove that even a third sub-allotment had been more recently attempted, nearly upon the plan of the first, but with a slightly different location of the lines of each lot.

NEW YORK STATE LAND SURVEY.

VERPLANCK COLVIN,

PLATE No. 9. *Superintendent.* REPORT 1884

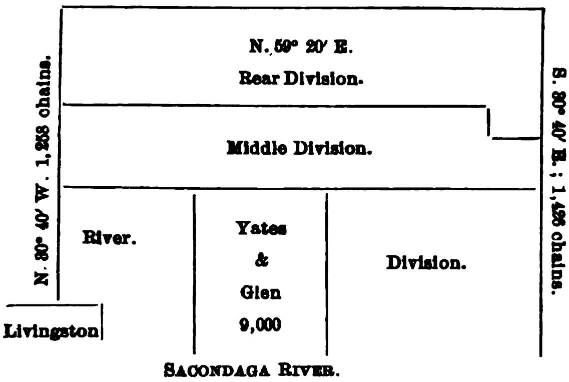


Moss Eng. Co., N.Y. Weed, Parsons & Co., Printers, Albany, N.Y.

RAGGED LAKE.

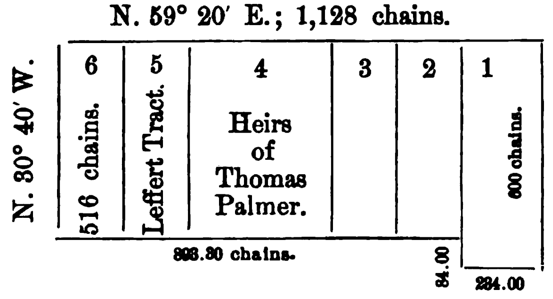
VIEW FROM TRANSIT STATION SOUTHWARD ALONG EAST SHORE, SHOWING CHARACTER OF THE FOREST.

The following figure will give an idea of the original patent:



This shows Palmer's purchase as surveyed by Lawrence Vrooman; not including Bergen's purchase, as Claude Joseph Sauthier shows it, erroneously, upon his map; for the last mentioned tract was expressly excepted from Palmer's purchase in the Indian deed, and has not at any time since been included therein.

The location of the six great lots in the "rear division" of Palmer's purchase, will be best understood from the accompanying diagram:



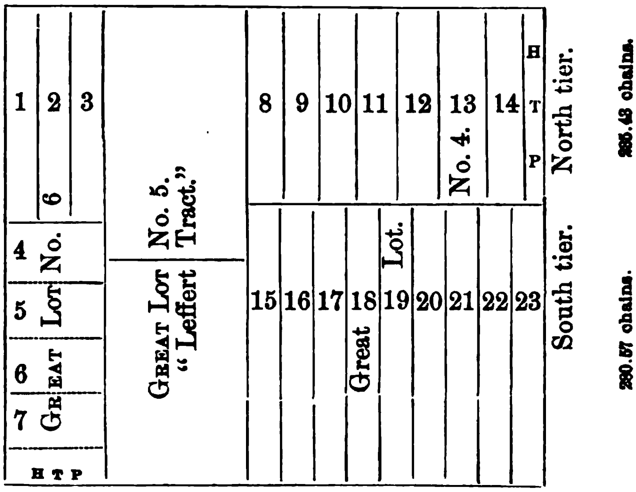
The complications were found to exist in lots 4 and 5 of this rear division.

On January 10th, 1789, Lawrence Vrooman filed in the office of the Secretary of State, at Albany, a map showing the extension of his surveys in Palmer's purchase. This map shows great lots 4 and 5, of the rear division; lot No. 4 now subdivided into seventeen lots numbered from No. 8 to No. 23.

The question naturally arises, why does the allotment begin with No. 8? Further examination shows that this allotment begins in Great let 6, at the north-west corner of the patent. Three long narrow lots are shown in the north part of Great lot 6; the south part contains 4 lots numbered southward 4, 5, 6 and 7 (each 73.05 ch. + 143.72 chains) and a small strip marked H. T. P. (4.63 ch. + 143.72 ch.)

Thus, passing over Great lot No. 5, the old allotment numbers reach Great lot number 4, at sub-lot 8; the seven preceding lots being all in Great lot No. 6, as shown in the annexed diagram of the

1st sub-allotment.



We might think that the subdivision of lot No. 4 had now reached sufficiently small areas for the purposes of the original proprietors or of lumbermen — but such is not the case.

We next find sub-lot No. 8 in Great lot 4, re-subdivided into 10 minor lots, of about 105 acres each.

Still later, we find that certain purchasers of these lands conclude to make still another subdivision of the north part of Great lot No. 4. The second allotment had made this eight (8) long lots; No. 8, 9, 10, 11, 12, 13, 14 and the H. T. P. lot. Lest any should be puzzled by the interpretation of the H. T. P., I would explain that it means "heirs of Thomas Palmer."

The last allotment of the north part of Great lot No. 4 proposed the partition of the H. T. P. lot among the seven other lots (Nos. 8 to 14). This would leave but seven lots in the north part of the Great lot.

Inasmuch as lands in this district were now more valuable than in the days when the original survey was made, discussion arose as to the actual dimensions of the H. T. P. lot, and of the entire great lot No. 4. The State was interested in any change or modification of the lines, being the owner of lots 9 and 15, as well as of numerous adjacent tracts, dependent upon the location of the boundaries of Palmer's purchase.

An examination of the lines was attempted by an agent of the Comptroller, and by the private owners, and some additional lines met with which complicated the matter still more. Such, I found, after investigation, was the condition of these several questions at the time they were referred to me for settlement.

Upon the close of work on the boundaries of the Benson township, I directed assistant Francisco to assemble a survey party to proceed to the north bounds of Palmer's purchase; and retrace that line until the original corners of the Great lots therein should be found. This done, he was to measure the length and breadth of Great lot No. 4 and, from such measured line as a base, trace out all conflicting lines, and locate the true position and ascertain the true area of the State lands.

The survey party was assembled and the work commenced on the 8th of October. On the 9th they succeeded in finding the east line of lot 15 in Great lot No. 4, of Palmer's purchase, and traced it northward to a birch tree which was found properly marked and "witnessed," by ancient blazes upon the surrounding trees. This ancient corner tree was found upon the north bank of a small brook, which winds among the hills until it joins the outlet of Wilcox lake stream, and thence by the East Stony creek descends to the Sacondaga.

The first measurements were made along the eastern bounds of this lot. The ancient line, though difficult to trace, was fully identified, and found to have a bearing of S. 26° 30′ E., showing a variation from the original bearing of 4° 10′ (or 250′) to the westward since 1789. This was about what the change in declination should be in that locality since the original survey was made. The length of this lot was found to be 274 chains and 38 links, or 6 chains and 19 links less than the original survey. In conducting these measurements still another system of allotment was discovered, sub-lot No. 16 being again sub-divided into lots of about 28 chains and 14 chains width alternately. At 128 chains the outlet of New lake was reached, and at 172 chains and 84 links the north bank of the East Stony creek was measured to.

At 225 chains and 8 links south from the birch-tree corner, the ancient line between the provincial counties of Tryon and Charlotte was discovered, having a bearing of South 4° 30′ West. This line could only be found upon the oldest trees. One large spruce was found bearing three sets of marks, attesting the importance of the boundary. Here the last line of lot 15 passes from the present county of Hamilton into Warren county.

Crossing a balsam swamp, and some hills that sloped to the westward the surveyors at 253 chains and 44 links reached another ancient line, which was found to have a bearing of S. 85° 30′ E. This line, after careful examination, was identified as the boundary between the counties of Saratoga and Warren — the ancient north line of the county of Albany separating it from that of Charlotte.

It was evident that they were not far from the point of intersection of the two ancient lines; and on the following morning a search was made for the ancient corner.

The two ancient lines, when retraced, led the survey party into a thick balsam swamp, rich with deep sphagnous moss, which grew luxuriantly in the solemn shade of the stately fir trees. Here, at a huge hemlock tree, the ancient lines met. The old tree was rugged and healthy still, and lifted its graceful evergreen foliage high above the slender balsams. On its robust trunk, which, though gray and seamed with age, showed by its firm, ruddy bark its vigorous vitality, the ancient marks were found. Upon the encircling trees the old witness marks were seen — now so deeply ingrown as to carry that delight to the heart of the skilled surveyors, that the litterateur experiences at the discovery of some long-lost mediæval manuscript.

But this tree was not a manuscript; it was the same living thing that in its youth had sheltered moose and caraboo, and might still guard the slumbers of bear, panther and deer. This tree was young, indeed, when savage men hacked down trees with stone axes upon the banks of the "river of the Mohigans," and the shores of the "Lac de Iroquois." It still bore the scars which the agents of the proud provincial governor had marked upon it. It was the corner which Claude Joseph Sauthier had shown upon his "Chorographical Map of the Provence of New York." The breeze had whispered softly among its boughs during the horrors of the French and Indian war; it had bathed in the sunshine and calm of the wilderness during the long and fierce struggles of the revolution. Soldiers, statesmen and orators had passed away, but the grand old hemlock still remained full of vigorous, joyous life.

The tree is so thrifty, and by its location in a swamp is deemed so secure from any forest fire, that it will remain — if untouched by the axe — intact for many years, a living monument. It is situated upon the State lands in the south part of sub-lot No. 15 in Great lot 4 of Palmer's purchase, and should be religiously guarded, not only as one of the most important land corners, but as an historical relic of surpassing interest. Its location is shown upon the accompanying map.

Time fails to give all the details of these interesting measurements. Let it suffice to say that the length of sub-lot 15 (south tier) was found by assistant Francisco to be 274 chains and 38 links. The length of lot 9 in the north tier was found to be 243 chains and 63 links. The width of great lot 4, including the H. T. P. lot, was found to be 335 chains and 20 links. The widths of these lots, as originally given in the deeds thereof (see, also, records of balloting, Field-book 16, Sub. F., Secretary of State's office), were for lots 8 to 14, originally "$48.10\frac{4}{7}$" chains, and no H. T. P. lot was made. This was changed by agreement of the proprietors to 44 chains and 58 links, and the H. T. P. lot was then created in order to conform the subdivision to what Lawrence Vrooman had shown upon his map, but had not located on the ground. The H. T. P. lot was intended by the orignal proprietors to have made, 24 chains and 64 links wide. The original allotments, 8 to 14 having a width of 48 chains and "$10\frac{7}{10}$" links, were found by Mr. Francisco to have been actually run, and the old marked trees being cut into, and the annual rings of growth counted, proved to have an age of 94 or 95 years. Lawrence Vrooman's fieldnotes are dated October, 1788, and the identification of the line (both by the marks found and the documentary evidence) is complete. The second subdivision of the north part of Great lot 4 into eight lots, including H. T. P., as proposed by the proprietors, and as now held by owners under the old deeds, was never actually made and their theory was indeed impossible. The width of the north half of Great lot No. 4 is 335.20 chains. Lawrence Vrooman thought it was 336.74 chains, and after planning to divide it into seven lots, each "$48.10\frac{4}{7}$" chains wide, (and thus really consuming the whole of the 336.74 chains), he proposed to put in narrow H. T. P. lot 24.64 chains wide. This is, of course impossible and absurd. In carrying out the present survey, Mr. Francisco and his assistants, although searching carefully and constantly, found no lines, except the ancient boundaries already described; the lines of the patent and of the lots, $48.10\frac{4}{7}$ chains wide which lot lines are now discarded under recent sales. These ancient lines were carefully remarked and the true distances between them determined.

Making the H. T. P. a proportional part of the subdivisions of Great lot 4, the true width of each of the said lots, 8, 9, 10, 11 and 12, was found to be 44 chains and 39 links; lots 13 and 14 were each 44 chains and 40 links in width; and the H. T. P. lot was found to have a width of 24 chains and 45 links.

The complication and difficulty was found to exist at the junction of the sub-lots 8, 9, 15 and 16. Here sub-lot 16 of the southern tier in Great lot 4 was found to have been run northward over the ancient centre line of the Great lot, by some parties unknown, so as to overlap upon the State lands in lot 9 a distance of 23 chains, thus abstracting over 100 acres from every sub-lot in the north tier of Great lot 4.

The original survey of these sub-lots by Lawrence Vrooman makes each of the lots in this north tier 235 chains and 43 links long. The overlap discovered, would reduce the length of these lots to 212 chains and 70 links, and increase the length of the lots in the south tier of Great lot 4 in the same proportion. By my direction, assistant Francisco searched for and found the south line of Great lot 4. He then measured the entire length of the Great lot on a magnetic bearing of N. 26° 30′ E.; which he found would best retrace the ancient line of marked trees; and found it to measure 518 chains and 1 link.

The length of Great lot 4 by the ancient survey was 516 chains. The lot was, therefore, found to be two chains longer by the new survey than was recorded by Vrooman upon his map. On this map the sub-lots in the north tier are recorded, as above mentioned, as being 235 chains and 43 links long. As the length of the Great lot is found to agree within 2 chains, there can be no foundation for the line which would reduce them to but 212 chains and 70 links.

The right of private parties to sub-allot their property may not be questioned; but the shifting of the subdivision line of the north and south tiers to what — if it is any thing — can be only considered a recent second sub-allotment line, cannot be made to affect whole lots owned by the State; nor can such second sub-line be extended across them, so as to cut off, reduce, govern or limit any portion of the property of the State, or of other lots whose owners do not accept such change.

CONCLUSIONS.

The original line survey seems to have been made with care and accuracy; little attention being given to the topography, as the work was merely intended for the subdivision of property. The investigation shows:

(1.) That Great lot No. 4 was actually subdivided on the ground as shown by Vrooman on his map dated January 10th, 1789; the old marked trees being found, except that the H. T. P. lot was not made; the seven lots (8 to 14) extending over and covering the whole of the north part of Great lot No. 4.

(2.) That the original survey made the length of Great lot 4 in Palmer's purchase 516 chains.

(3.) That this Great lot was divided into north and south tiers; the lots in the north tier being, intended to be 235.43 chains long and in the south tier 280.57 chains long.

(4.) That the width of Great lot 4, by the old chain measurement was 336.74 chains.

FINDINGS.

The investigations and measurements disclose the following material facts:

I.

That the original north and south lines of Great lot No. 4 still exist marked upon the trees, and that the length of said Great lot, between said lines, is 518.01 chains.

II.

That the width of said Great lot 4 is 335.20 chains, including the sub-lot H. T. P.

III.

That, if the allotment as originally proposed be maintained, the width of the lots, in round numbers, will be between 44.39 chains and 44.40 chains. (To avoid carrying the widths to interminable decimals it is suggested that lots 8 to 12 each be made 44.39 chains wide; lots 13 and 14 each 44.40 chains wide,) and the lot H. T. P. will be 24.45 chains wide, and that each of these lots in the north tier, be 243.63 chains long.

IV.

That the lots in the south tier do *not* lap over upon those in the north tier 23 chains; but have a length of 274.38 chains.

SECTION VI.

TOTTEN AND CROSSFIELD'S PURCHASE

AND

MOOSE RIVER TRACTS

WEST CANADA LAKES.

Time is so limited that only the briefest statement can be given of the measurements made in this very interesting district.

Toward the middle of October, it became evident, that the location of the boundaries of Township No. 3, of Totten and Crossfield's purchase, would be needed to perfect the maps to be made of the State lands therein, which amount to upwards of 20,000 acres. As the Adirondack winter sets in very early — snows beginning to fall in October even on the lowlands in the central portion of Hamilton county — the Superintendent directed Mr. Francisco, about the 20th of October, to defer the completion of work on the Palmer's purchase lines, and make an immediate survey of such portions of the lines of Township No. 3, as would serve to locate the south-westerly and north-westerly corners thereof. He was also instructed to connect certain points on the east line of township No. 8 of the Moose River tract, (located by Mr. Davis and party in 1882,) with definite points upon the shores of the West Canada lakes — which are immediately adjacent to the westward of the line in question. By this means, the line would be connected with the most prominent features of the topography of the country, and be easily discovered and retraced in the future.

The West Canada lakes are situated in the wild district, at the head waters of the West Canada creek; which here has its source; and descends from an elevation of 2,348 feet, over many a rift and rapid, to the famous Trenton falls.

It was from the West Canada Lakes in July, 1882, that the failure of provisions had compelled us to return northward to our base of supplies. Nearly a dozen beautiful bodies of water, here cluster among the hills; the dense forest enclosing them on every side. Deer and trout are abundant. The bear is not infrequently met with, and the panther, in this vicinity, finds many a lonesome glade where he may roam undisturbed.

The surveys which I had made in 1882 had proved that these lakes were not located in Totten and Crossfield's purchase, as had been often supposed, but in the Moose river tract. It was proposed by the present survey, to connect these lakes by measured offsets with the boundaries retraced the preceding fall, and to connect the topographical work with the land lines.

On October 23d, assistant Francisco, with his party, set out for the West Canada's *via* the Cedar lakes, accompanied by a sufficient force of guides and packmen. Being heavily loaded with blankets, provisions and instruments, the party was compelled to go into camp the first night at Grass brook. October 25th the party reached the lakes, crossing the Cedars by the light boats of the guides. The West Canada's were reached in time to enable the party to plan the manner in which the lines should be measured, and the triangulation of the East lake made. " Ice formed rapidly on the inlet of the lake to-night, and the prospect of the closing of the lakes behind us, made us resolve to hasten work with all possible speed."

Friday morning, October 26th, showed the ground covered with snow. The snow continued to fall all day but, notwithstanding the disagreeable nature of the day, the measurements were at once commenced. The west line of township No. 3 was discovered, and bearing N. 27° W. and traced northward from a stream, which proved to be the inlet of the East lake. Five chains north of this inlet a balsam tree was marked, as the initial point (A) of the offset line to the lakes. The offset was found to pass over difficult ground, "for the most part through a thickly grown Alder swamp, which "greatly impeded progress, as a line had to be cut all the way for "accurate chaining." This line crossed the inlet of the lake five times. It was run on a bearing of S. 63° W. and reached the shore of the east lake, at station B, 65.57 chains from the initial point.

Here a base line was measured, and the length of the East lake found, by triangulation, to be 39.57 chains to station D, on the west shore, as shown on the map.

October 28th, starting from station D, the distance of the South Lake was determined in a similar manner; as shown on the accompanying map; and the local topography sketched.

October 29th the line to the Great or Middle West Canada Lake, was measured to, and the length of the lake found by triangulation, from a base measured at the east end. Station G, at the east end of the lake, was located on a huge rock, called by the guides the "Devil's Chair." The length of this lake is 55.04 chains. The water is deep and clear, and the shores rocky and picturesque. It is the only lake of the group which contains both lake and brook trout. The forest here is remarkably beautiful, the black spruce growing thriftily and but few dead trees to be seen.

The declination of the needle at the middle West Canada lake, I had determined on July 9th, 1882, at the station shown on the east shore on the map, and found it to be 9° 54′.2 West of true North. The ancient lines in this section show a change from the original bearing of about 3° of arc. This would make the magnetic declination at the time in which the Totten and Crossfield townships were laid out in the year 1772, about 7° West of true north.

October 30th work was resumed at the north-west end of the Middle lake, with the intention of running a line across the divide, between the waters of the West Canada and the Moose river, to the small pond known as Brook-trout lake. Here, the assistant was at a loss how to proceed, not knowing in what direction to run his line. Consulting his guide, Sturgess, he was shown a tall tree upon a distant mountain slope and advised to run the line upon that bearing, as that would bring him to the Brook-trout lake at the terminus of the trail near a little inlet on the east shore. The line was run in accordance with the advice of the guide, and struck the lake shore less than half a chain from the place desired. The marvelous knowledge of woodscraft which these men of the forest possess, could not be better shown than by this example; the guide did not know the bearing, nor did he know the distance, but he knew which way to go and how to get there.

It is needless to dwell upon the other measurements, the results of which are sufficiently shown upon the map of the West Canada lake region. The character of the country and lands in this section have been heretofore described. The topographical work was hastened as soon as the connection of the lakes with the west line of township 3 had been made, for the snow was increasing in depth, and the lakes would soon close with ice. The location of the State lands in the western part of township No. 3, is shown upon the map. The boundaries of this township can never be lost hereafter, as reverse measurements from the lake shores will at any time redetermine them.

Township No. 3, is located on the western boundary of Totten and Crossfield's purchase six miles in an air line northward of Lake Pleasant. The outer bounds of the township were marked in 1772, by Archibald Campbell, who made the east and west bounds each 567 chains and 60 links in length (N. 30° W.) and the north and south bounds 418 chains (N. 60° E.)

The bearings of the lines were found to have changed since 1772, and were now N. 27° W. and N. 63° E. respectively. The annual change seems to have been less in this district than in the region to the southward in the vicinity of the settlements. This suggests the possibility that the clearing away of forests changes the location of the isogonic lines, which are probably dependent upon the lines of a mean terrestrial temperature. A further survey of this township is desirable, especially the location of the north line. Lumbering companies have now cut roads to the valuable pine and spruce forest in township No. 4, next adjacent on the north, and the location of the boundaries of the State lands should be made while the old timber remains uncut in order to avoid future vexatious complications.

No disputed or conflicting lines were found in this district. Some random lines, made by compass surveyors searching for the ancient boundaries exist, but were so recent as to cause no confusion. The work in this section was, therefore, simple, and was rapidly executed, and calls for no discussion.

The location of the large tracts owned by the State in the heart of Hamilton county had already been partially executed during the progress of the Adirondack Survey. Raquette lake and township No. 40, were reached in 1882, and the measurements then made have already been described and need not be repeated here. Indeed, time and means only permitted the settlement of those boundaries which were in dispute and required immediate survey.

SECTION VII.

ESSEX COUNTY.

OLD MILITARY TRACT; (SOUTH PART;) TOTTEN AND CROSSFIELD'S PURCHASE; (NORTH AND EAST BOUNDS;) ROARING BROOK TRACT, ETC.

The State lands in the County of Essex, preceding the tax sale of 1881, had an area of 133,447 acres. In 1881, additional lands to the extent of 25,690 acres, were acquired by the State; making the total area of public lands in this county, at the present time, 179,137 acres.

These lands are nearly all located in the wildest and most mountainous portion of the county, and in these remote sections are, generally, well timbered. The greater portion of the State lands, in the southern portion of the county, are located in townships 16, 26 and 27 of Totten and Crossfield's purchase. The location of the joint corners of Townships 16, 18, 26 and 27 and of 26, 27, 30 and 46, was made in 1880, and the discoveries then made and methods and results of work, have already been described in a former report to the Legislature.

Having studied the location of all the several tracts of State land in this county, I found that the localities, which now required most immediate attention, were in the central portion of the county, in North Elba, Keene and Elizabethtown. Here, the boundaries of the land patents were involved in obscurity, owing to the overlapping of one system of land surveys upon another.

The earliest land grants in this portion of the State, were the French Seignories. Vermont and northern New York were then, as far south as "Lac St. Sacrement," under the domination of the soldiery of Louis XV. Of all the grants made by the French Crown, the great Seignories of Hocquart and Alainville, can alone be definitely traced. With the conquest of Canada, the French grants were swept away and a new policy was inaugurated. A great number of the early English grants were made to officers and soldiers of the French and Indian war. Hardly had this been done when the Colony was in the midst of the convulsions of the Revolution; and it was not until peace had been secured and the State government established, that the boundaries of property in this region began to assume any fixed condition.

In the southern and western portion of the County of Essex, the outlines of a number of the townships of Totten and Crossfield's purchase, and adjacent tracts, had been marked by the Colonial surveyors. North of that purchase, within the territory conquered from the French, existed a great extent of forest land, lately the property of the northern or Algonquin Indian tribes, and in 1786, the State government sent its surveyors to run out the bounds of a tract proposed to be given to the revolutionary soldiers in compensation for their services.

Thus arose what is now known as the "Old Military tract," intended to contain some 640,000 acres, but actually reaching an area of upwards of three-quarters of a million of acres.

I have given, in a former report, a detailed account of the rediscovery and location of the south boundary of this great patent, and the work accomplished in this section, during 1883, can be sufficiently understood without again explaining the means by which the lines of the Old Military tract were rediscovered and their location ascertained.

It is only necessary in the present report to specify the particular tracts of State lands which were located by survey during the past season, and to give such explanation as will prevent any misunderstanding in the future.

It is therefore proper to state, without further explanation, that the Old Military tract was based upon a line run from a point in the town of Westport, near the shore of Lake Champlain, being a corner established by Zephiniah Platt in 1786; which was the initial point of the survey made by Cornelius Tappen in 1787.

Tappen measured from this corner a line due west as the magnetic needle pointed in that year; and, having run out a distance of ten miles, made a right angle and commenced to mark a line of trees for the east boundary of the Old Military tract. This line was extended to the frontier of Canada in latitude 45° north, and forms the eastern boundary of Township No. 5, in Clinton county, heretofore discussed.

The Old Military tract was subdivided into twelve townships; the two southernmost being townships No. 1 and No. 12.

It was in township No. 1 that the complication arose, which gave me so much difficulty in settling these boundaries in the spring of 1881. The monuments then set and lines established, greatly facilitated the present work.

Township No. 1 is the south-east corner of the Old Military tract, but no longer exists in its original and complete form.

In 1817, a new tract was laid out under the direction of the Surveyor-General, Simeon De Witt, and was intended to include the mountainous district along the boundary between Keene and Elizabethtown. This new subdivision was, for lack of any better name called the Roaring-brook tract, after the numerous swift mountain streams which descend noisily from this great mountain mass. Here rise the lofty peaks of the Giant mountain, Green mountain, Iron mountain, Bald mountain, and Round mountain, to heights of from 3,000 to 4,500 feet above the sea.

The survey of this so-called Roaring-brook tract was made by S. D. Kellogg, Deputy Surveyor on behalf of the State during the season of 1817, and extended northward from the North River Head tract, so as to include and cover a great portion of Township No. 1, in the Old Military tract. Thus two sets of lines, one superimposed upon and above the other came to exist, and confusion was created, which has lasted down to the present day.

In the very midst of this Roaring-brook tract, the State owns twenty-seven large lots of forest land; and report was made to me that trespasses had been committed upon other State lands to the westward on the Old Military tract; all being in the vicinity of Keene Valley, now one of the greatest summer resorts in the Adirondack region.

An examination of the original maps of the allotment of the Roaring brook tract, showed that the numbering of the lots was different from that shown upon Burr's official map — the State assessment atlas — and it was found that neither the Comptroller nor the State Engineer and Surveyor, had any records which would show the true location of these lots, with regard to the topography.

It was important to ascertain how near the settlements of Keene these lands were actually located, and to mark their boundaries and ascertain whether trespasses had actually been committed and valuable timber removed. I, therefore, directed Mr. G. L. Locke, who had been for many years engaged in retracing ancient boundary lines in the forests of Essex county, to proceed to Keene valley and take up the resurvey of the lands in question.

The numerous signal stations located in this section by the Adirondack Survey, now proved of the greatest value. The State lands being in detached parcels, each group of lots could be surveyed separately, and located by measurements made to the nearest signal station; then, as the distances and true azimuths from signal to signal were known, the true geographical positions of the several tracts of State land were immediately obtained, without incurring the enormous labor and expense of detailed measurements, extending lot by lot through all the intervening private lands. The connection of the allotments with the signal stations, by triangulation, was intrusted to assistant Blake, whose acquaintance with the locality and the position of the signals, made him especially available in this department.

The field work in this district was taken up early in July, and was continued until the twelfth of October, when the complications affecting the boundaries of the State lands had been cleared away and monuments set at the important corners. Mr. Blake remained until the middle of November upon the summits of the high peaks, perfecting the connection of the detached tracts by triangulation.

The lots located in the Roaring-brook tract were 28, 29, 30, 38, 39, 41, 42, 48, 50, 51, 57, 58, 59, 65 and 66 of State lands. In searching out the outlines of these lots the boundaries of the following private lots were also located, viz.: 37, 40, 49, 52, 60, 61, 67, 69 and

The position of these lots and the location of the corners and monuments are given upon the accompanying maps.

The signal stations on the Giant mountain, and Hopkin's peaks, were measured to from the lines of the lots, and the connection of the State lands with the triangulation of the interior thus secured. The returns of these measurements have only recently been made. They will be reduced at an early day, and the geographical positions of each of the several lots or tracts of State land, and of the corners thereof, will be computed and transmitted in a future report.

Upon the completion of work in the Roaring-brook tract, the location of the State lands to the westward in the Old Military tract, was taken up. Surveys were made of lots 65, 69 and 93 in Township No. 1, and the trespasses which had been reported to me were found on lot 93.

Lot 93 is located on a branch of John's brook not far from the settlement of Keene Valley. Timber had been methodically cut on a section in the north part of this lot and removed to the settlement for sale. This trespass, as soon as located, was reported to the Comptroller.

The time at my disposal, within which this report must be rendered, will not admit of entering into the details of these measurements. Upon the completion of the survey and location of the State lands in Township No. 1, the measurements were extended westward along the north line of Totten and Crossfield's purchase. This line is here, also, the south line of the Old Military tract, and upon it as a base the location of the public lands in Township No. 12 (O. M. T.) was begun. The line thus run determines the south-east corner of Township No. 12, and the south line of the State lots 4 and 5 in Township 12, (O. M. T.) The line was carefully measured across Keene Valley, over the Wolf-Jaw range, across the head of John's brook valley, and thence westward over the high ridges near Table-top mountain and Mt. Phelps, terminating near the trail from Mt. Marcy northward to Clear pond. The old lines of marked trees were carefully traced in every instance, and the corners set only at the intersection of original lines.

The variation of the needle upon the old subdivision or allotment lines in the Roaring-brook tract, was found to be 3° 30′ to the westward, since 1817, or 210′ of arc in the interval of 66 years. This would indicate a mean annual change in the declination of 3′.18 to the west, for this section of the Adirondack region.

The declination of the needle was observed on the meridian line, determined at Keene Valley, and was found to be 11° 32′.6 west of true north on August 1st, 1883. Using the observations on the meridian line of Keene Valley as the standard for comparison with the lines of the adjacent tracts, it is apparent that in 1817, the magnetic declination was 8° west of true north.

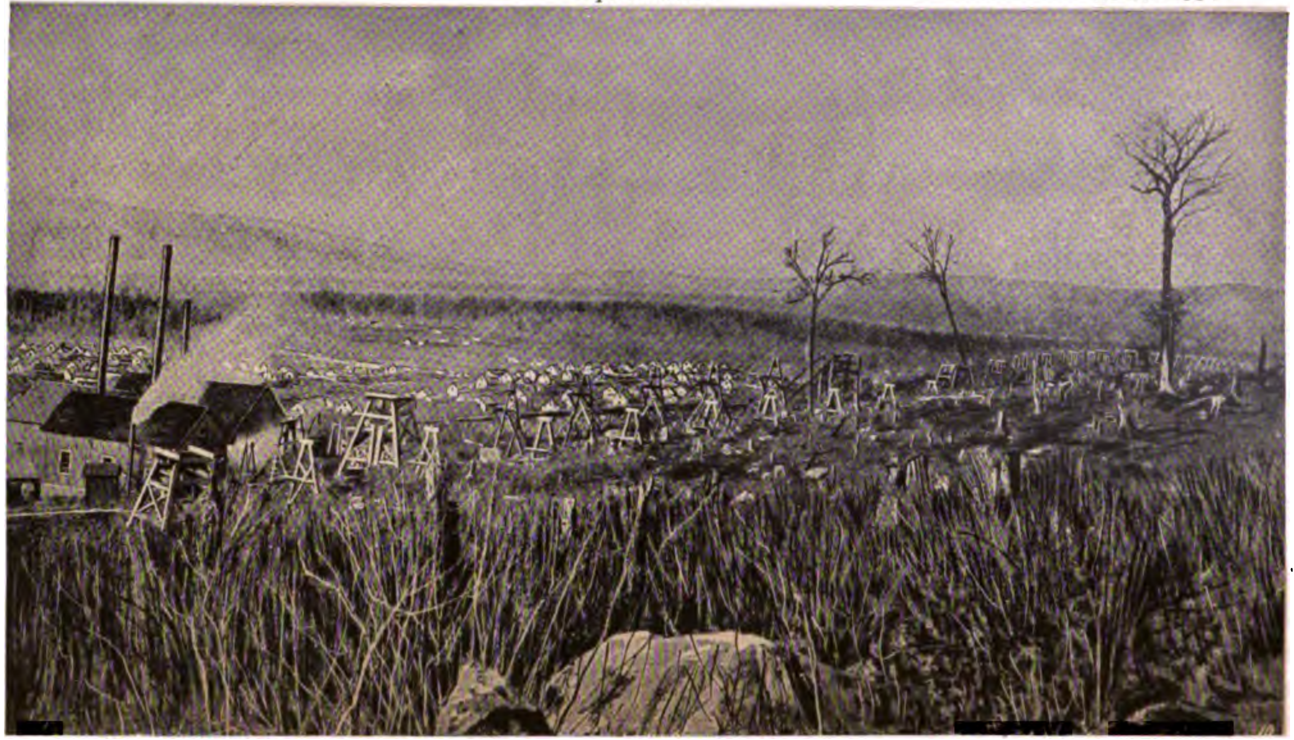
While this is true for localities adjacent eastward of the meridian line, the variation on lines to the westward is found to be slightly different, and is computed at 3′.85 per year since 1813, which is the date of the allotment by John Richards of Townships No. 1 and No. 2. The north and south lines of these lots had a magnetic bearing in 1813, of North 0° 30′ West. They have now a bearing of North 4° 00′ East, showing a change in 70 years of 270′ and $\frac{270}{70}' = 3'.85$, the apparent average rate of annual change along the lines of the townships referred to.

Time does not admit of a more extended discussion of work in this section. The results are shown more particularly upon the maps of the lots and lines surveyed, hereto attached. The accompanying diagram shows the manner in which the ancient surveys are superimposed.

NEW YORK STATE LAND SURVEY.

VERPLANCK COLVIN,

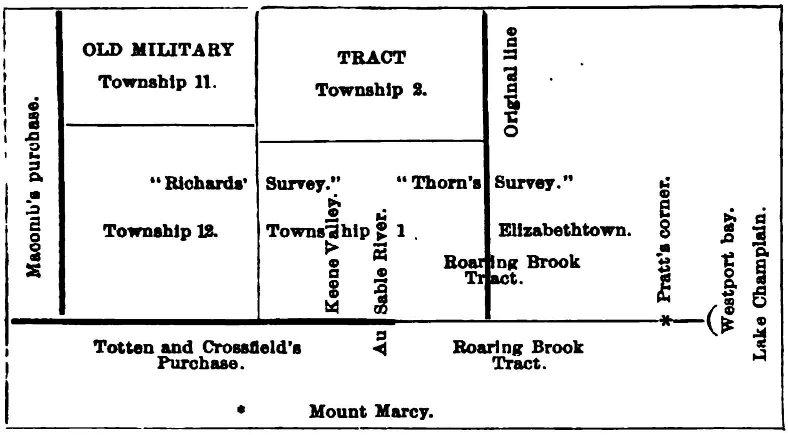
PLATE No 10 *Superintendent.* REPORT 1884



Moss Eng Co., N Y Weed, Parsons & Co Printers, Albany N Y

LYON MOUNTAIN IRON MINES.

VIEW NORTHWARD TOWARDS ELLENBURGH. PANTHER MOUNTAIN—ELLENBURGH MT.



Had it not been for the thorough examination given this section in former years by the Adirondack Survey, the location of these State lands would have been extremely difficult. The surveyors sent into this section, through their previous experience with me in searching out the adjacent lines, were able to take up the work intelligently and promptly.

The location and character of the State lands in the County of Essex can be better understood from the accompanying illustrations (see crayon drawings,) than from a technical description, lot by lot. The view from Mt. Hurricane, shows the entire mountainous region from the eastern slopes of the Giant mountain range to Whiteface mountain. It gives the location of Iron mountain, Green mountain, Mt. Moriah, Giant mountain, Knoblock mountain, Pitchoff mountain, MaComb's mountain, Mt. Dix, Hunter's pass, Nipple Top, Dial mountain, Elk pass, AuSable pass, Sawtooth mountain and all the mass of the Gothic mountains with Basin mountain, Mt. Haystack and Mt. Tahawus towering above all.

Below is shown the location of the pleasant and sheltered valley of Keene, and around to the westward, against the horizon, Mt. Colden and the MacIntyre range, with great Slide mountain, Mt. Porter, Sable mountain, Long Pond mountain, Keene mountain, MacKenzie mountain and Whiteface complete the picture.

The toils experienced by the survey parties in climbing from range to range, cannot be understood or conceived even by an inspection of these drawings. The tangled mass of fallen timber in the forests; the ledges to be climbed; the cold wet moss; the frequent storms and exposure must be felt to be understood.

SECTION VIII.

FRANKLIN COUNTY.

MACOMB'S PURCHASE AND THE NORTH WEST BOUNDARY OF THE OLD MILITARY TRACT.

The State lands in the county of Franklin have an area of 160,121 acres. The greater portion of these lands lie to the southward of the north line of the town of Duane, and are consequently within the limits of the area included by the lines between the trigonometrical stations of the Adirondack Survey from Owl-crest, De Bar mountain and Mt. Azure on the north; St. Regis mountain and Mt. Ampersand in the central portion of the county, and signal stations on Mt. Morris and Mt. Seward in the southern part of the county. The boundaries had been, therefore, already sufficiently determined to enable me to prepare a land map of the county, showing the location of the tracts owned by the State. The details of topography, over a large portion of the wilderness, in this section will, nevertheless, require years of hard, conscientious labor, if worked out with exactness. This district contains a multitude of small lakes which cannot be located by triangulation.

The minutia which tourists, fishermen, sportsmen and travelers who now throng the wilderness in summer desire upon the maps, would require the work of hundreds of survey parties if every stream, rill, runway or undulating ridge or marsh or pond be located throughout these thousands of square miles of forest. Our work has been confined to the more important lines, and the present survey of the State lands has called for the location of boundaries in the first instance, and renders the sketching of the topography and the location and mapping of lakes, ponds and swamps, necessarily, a secondary matter.

The investigation of the condition of the boundaries of tracts owned by the State, in Franklin County showed me, that the peculiar complications which existed in the counties of Fulton, Hamilton and Herkimer, did not exist in this district.

It is creditable to the backwoods inhabitants, of this county, also, that no such system of timber depredation exists as was reported to me from the previously mentioned counties.

The principal cases which require attention in this county are the lands in which the State holds an undivided interest, acquired by tax sales.

The private owners — partners with the State — in such cases, at times experience great hardships. They have no right to cut the timber, as the amount of their particular interest has not been determined, nor can it be, without a decision of the courts or a partition sale.

The act of 1883, gave me no power to separate by survey or to make partition of tracts where the State owned an undivided interest with private parties. Many of these cases are quite complicated and deserve the early attention of the Attorney General.

When explicit decisions have been rendered in such cases by the Courts and partitions properly directed, the work of surveying and separation can be taken up and properly done. Until these necessary legal steps have been taken, the location or subdivision and separation of such lands by survey, is premature and improper and, indeed, impossible.

The original surveys in the County of Franklin, although made with magnetic compass, were so well systematised that such complications as have occurred in the other counties are not likely to occur here, to any such extent as was encountered on the Jerseyfield and Palmer lines.

From the time of the original survey of Ma Comb's purchase, the variation of the needle was to some extent, attended to, as the surveys lasted over a period of many years. Being made for wealthy private citizens, political changes did not affect or disarrange the work, and the measurements have consequently a unity rarely found in compass surveys of such vast area.

Some misapprehensions, however, existed at the time in regard to the nature and extent of the movement of the magnetic needle. In great tracts 4, 5, and 6, the year 1797 was assumed to be the year of no variation for that entire area. This, I have heretofore shown did not apply to some stations in the interior of the wilderness;

lines of marked trees run in that year in several sections, by different surveyors with different instruments when traced and referred to the meridian lines which I have established in each of the northern counties, showed that in that year the declination of the needle was often from 3° to 4° to the westward of true north.

This is one source of error which has to be guarded against in the 4,000,000 of acres of the Ma Comb's purchase. I should have been glad to have extended the detailed investigation of the lines of each of the several lots of State land in this county, but the peculiar condition of the "undivided" tracts and the limited time and means, compelled me to confine my attention to a few localities.

The observations made by myself personally have been already sufficiently outlined in the narrative of work between St. Regis, Mt. Azure, the St. Regis waters and Chateaugay. During the reconnaissance made between St. Regis and the head waters of the north branch of the Saranac, I learned that lumbering operations were about to be commenced upon a large scale in the south part of Township No. 15, immediately adjacent to valuable pine and spruce forest owned by the State in Township No. 18 of Great tract No. 1.

The boundary line between these townships had not been authoritatively marked since the original survey in 1799. Ascertaining that the uncertainty of the location of this line might lead to trouble I gave directions for its retracing and the permanent marking of the corners. This work was done by a party under the supervision of Mr. S. Wardner, a local surveyor, who identified the line and witnessed the monumenting of the corners of the townships.

The magnetic bearing of the line was found to have changed 3°15′ from the original recorded direction of due east and west in 1799, being now S. 86° 45′ E. The width of the township was found to be 1 chain and 65 links less than by the original measurements.

The north-west corner of Township 18 was marked with a substantial block of granite of 500 lbs. weight, with drill hole to receive the copper bolt marking the centre of the station.

At numerous places along this line, forest fires had destroyed the woods and made the retracing of the line difficult. The line was found to cross the east branch of St. Regis river (the outlet of Osgood pond), 104 chains and 50 links, east from the north-west corner of township No. 18. Hay's brook was reached at 191 chains from the corner. The north fork; the Osgood stream; which descends from the pass at the eastern end of the sable, spruce clad mountains intervening between Rainbow Lake and Meacham; was reached at 478 chains. At 650 chains the reference monument was set on the west line of Township 10 of the Old Military Tract for the corner of Townships 15 and 18 of Great Tract No. 1 in MaComb's purchase. Additional work is here required.

Much valuable pine timber exists upon the State lands in this section, and has the greater value on account of its accessibility. Lakes and rivers combine to make the removal of timber easy and these natural conveniences increase the market value of the timber.

An account of the survey and monumenting of a section of the east line of the County of Franklin, during the past season has already been given. It furnishes, by transit line, the exact location of the east boundary of Township No. 8 in the Old Military Tract and much valuable topographical data; and, by its connection with the triangulation, gives the geographical position of the County line and affords a base for the accurate mapping of the adjacent tracts. The general bearing of this line was South five degrees West.

The change in the general direction of the line since 1787, was found to be about 300′ of arc west.

The declination of the needle in townships 8 and 9 is too much affected by local attraction from magnetic iron ore to be regarded as indicating the normal declination for that latitude and longitude. In order to plat the maps of the State lands in the remainder of the county accurately, I determined the direction of the true meridian at a number of stations, and, from magnetic observations subsequently made, obtained the declination of the needle for each locality.

At the signal station of the Adirondack Survey at Malone the declination was found to be 12° 30′ West of true North.

At the mouth of the St. Regis river on the Indian reservation it was found to be 10° 31′.2 West of true North.

At Paul Smith's on the St. Regis Lakes it was 10° 09′ west, and at the head of the Saranac Lakes four observations gave a declination of 10° 47′ west.

Assuming a variation in the present bearing of lines in the central portion of the county since the time of original survey of 3° 15′, the declination of the needle in 1799 at these stations was nearly as follows:

Malone .... Variation, 1799 = 9° 15′ West
Indian Reservation...... " " = 7° 16′ "
St. Regis Lake......... " " = 6° 54′ "
Saranac Lakes........... " " = 7° 32′ "

These are interesting figures in view of the fact that they give the approximate declination at about the time when the gradual eastward movement of the needle was near its periodical minima.

It is evident that the popular idea existing, that the early surveyors found the needle to point nearly along the true meridian in 1797, everywhere throughout the heart of this region, was a mistake.

Late in the season I was desired by the Comptroller to cause a detailed survey to be made of a large number of lots in this county. The limited extent of the appropriation, and the care and time which the investigations already undertaken required, prevented these special surveys from being taken up at this time.

SECTION IX.

ST. LAWRENCE COUNTY.

MACOMB'S PURCHASE; TOWNSHIPS OF GRANSHUE, HOLLYWOOD, KILDARE, OAKHAM, SHERWOOD AND EMILYVILLE.

Although the County of St. Lawrence is, to a great extent, densely wooded, and includes within its borders nearly a thousand square miles of wild forest; yet its inhabitants have thriftily managed their property, and but small portions of the original purchase by MaComb, have ever returned to the State for the non-payment of taxes.

The total area owned by the State in this county is 43,241 acres, nearly all well timbered land.

The greater portion of these lands are in townships Nos. 1, 2, 4, 5, 7, 8 and 9 in Great Tract No. 2; and in Township 15 in Great tract No. 3 of MaComb's purchase.

The largest separate tracts of these lands are in the townships of Granshue, between the Raquette and the Grasse rivers, and the township of Emilyville on the head waters of the Oswegatchie river. These two detached portions of State lands are nine miles distant from each other. Emilyville or Township No. 15 is so far distant in the wilderness as to be for the present, perhaps, secure from depredators; although little, if any, plundering of State timber has been done in the county of St. Lawrence.

Early in the season, I made inquiry and investigation in regard to the condition of these tracts of forest land, and ascertained that they were valuable. In looking over the data to ascertain what measurements would be needed to enable me to locate these tracts accurately upon the maps, I found that, if the principal lines and corners of the townships of Granshue and Emilyville could be connected with the triangulation, the drawing of the outlines and allotments of the remaining townships could be truly made.

A reconnoitering party was sent to the head waters of the Oswegatchie river to examine the mountain summits southward of Great Cranberry lake, between the great inlet and the head of Bog river. This reconnoissance was made during July; and on the 30th of that month report was made to me that the mountain summits which I had noticed in this district in 1873, (and which I had now caused to be re-examined) were available as stations in the chain of triangulation to the limits of Township 15 (Emilyville). Yet, while available, the forest on these summits was found so dense that stations could only be made by heavy chopping. The mountains in this section are low, and the trees usually large and thrifty spruce.

The expense and delay of work consequent upon such clearings, and the number of signal stations that would be required, brought me, reluctantly, to the conclusion, that our labors in St. Lawrence county, during the present season, must be limited to the central and eastern sections. These tracts being near the signal stations on the Raquette river of the Adirondack Survey could be located without the expense of new clearings and new stations. Limited time and means rendered this alike indispensable.

The south-east corner of the township of Granshue (T. No. 7, Gt. Tract 2), was, therefore, selected as the initial point of the present surveys in the County of St. Lawrence.

Assistant Farnsworth, who had so well conducted the survey of the Raquette river in 1879, was otherwise engaged, and I placed his assistant, Mr. S. B. Crandall, in charge of the measurements along the boundaries of Granshue. Mr. Crandall having charge of the Surveys of the West Virginia Land Company was absent from the State, and I was not able to secure his services before the middle of August. His long acquaintance with the boundaries of the MaComb townships, in this county, and his experience upon the Adirondack survey, made him specially available in this department.

On Saturday, August 18th, I placed the plan of work in Mr. Crandall's hands at Potsdam, and on the 20th he had organized his party, and was upon his way up the Raquette river.

The examination which I had heretofore made of this section from Mt. Morris, in 1882, and from Bog Mountain during the present season, had shown me that the boundaries and corners of the lands in this vicinity, could be best connected with the surveys of the interior by measurements to and from this signal station on Bog Mountain; which being visible from the signal station on Mt. Morris and Mt. Azure, would give the geographical position of all of the tracts that could be tied to it, by measurements with steel ribbon, along true azimuths.

Bog Mountain signal station was, therefore, made the central point of reference, and assistant Crandall was directed to first search out and locate, the south-east corner of the township of Granshue; to which he had been on former surveys; and then to retrace the east line of that township to the northward, measuring until he should reach a point on the line, due west from the signal on Bog Mountain. This accomplished, he was directed to proceed to Bog Mountain, and commencing at the signal station, run a transit line westward, on an azimuth at right angles with the township line, until it should intersect that line. The distances and azimuths thus found would determine the true position of the townships and the State lands therein.

On August 21st, the survey party reached the initial point at the south-east corner of Granshue. The provisions had been brought in and, by afternoon, the south and east lines of the township had been traced to their intersection, and a block of native granite, weighing upwards of five hundred pounds, had been placed at the corner, monumenting the converging lines of Granshue, Hollywood, Harewood and Jamestown. Camp was made near the shores of the beautiful little lake known as Clear pond, and before dark the store of provisions was augmented by a fine buck, shot by Mr. Crandall with his rifle, the only piece of venison enjoyed by any of the survey parties during this season.

Between August 22d and 25th, the survey party was busied in identifying, tracing out and clearing the brush from the boundary line between Granshue and Hollywood, preparatory to the transit work.

On the 25th, in accordance with instructions received from the Superintendent, search was made for a mountain thought to be in this vicinity, and on which a signal station was to be placed. This summit, had been swept clear of forest by a hurricane which had cut down the forest trees like a swath of grain, in a long, narrow band, for a distance of over seven miles. Sweeping across this mountain crest it had left the rock of the summit bare, and it was this naked rocky crest, which the Superintendent had observed from his station amidst the ice and snow, on the summit of Mount Morris in December, 1882. This naked crest the guides had called Bald Hill.

The singular freak of the tempest, which has swept the summit of this mountain clear of timber, is difficult to understand. So dense and unbroken was the wilderness, that no sight for some time could be had of this mountain, or of the wind-thrown forest, and in the effort to discover the summit two of the party were lost, and only found by the guides after hours of search.

From the summit of Bald Hill, a wild forest landscape was visible. Three miles to the south-west is Blue pond, a beautiful little sheet, shut in by the forest. Eastward Bog Mountain signal was visible, and further eastward Mt. Morris, Mt. Seward and all the high peaks of the Adirondacks were seen. Near by to the south-westward a deep gap in the forest stretched, from the mountain side away, almost as far as the eye could reach. This was what is known as the little wind-fall, and there the deep gash cut by the hurricane extended like a giant's highway through the forest. The terrible force which this tornado possessed since it swept to the earth in a few moments myriads of gigantic trees is difficult to estimate.

August 26th, assistant Crandall returned to the monument set at the south-east corner of the township of Granshue, and commenced the transit line northward. One of the men, Mr. Barkley, fell this day upon an axe and cut himself severely. Made seven transit stations and measured 993 feet of line. On the 27th, eleven transit stations were occupied and 3,978$\frac{80}{100}$ feet of additional base line measured.

"August 28th, Barkley's leg was found to be in a dangerous condition, and he was sent out of the woods while yet able to move. Ran the transit line eighteen stations northward, and measured 5,028$\frac{57}{100}$ feet of base line.

"August 29th opened with rain and work could not be taken up before 10:30 A. M. By working until dark, we made fifteen stations, and measured 3,755$\frac{04}{100}$ feet of base line having now run 13,754$\frac{81}{100}$ feet north from the Granshue corner monument. Set stone monument to-day at the south-west corner of section 36, in Hollywood. The line is now shut in by State land on both sides.

"August 30th ran 3,188$\frac{74}{100}$ feet, and occupied seventeen transit stations. Station No. 55, was at the north-east corner of the State land in the Township of Granshue. Here, a stone monument was placed, the centre of the station being marked by a drill hole in the rock. At station No. 70 the north-west corner of section 36, State land in Hollywood was reached, and was also marked by a stone monument."

Not being sure where the offset line from Bog Mountain would intersect the township line, assistant Crandall now broke camp and moved to the foot of the Bog, and occupied the signal station on the mountain summit.

On Saturday, September 1st, the offset line from the signal, west towards the township line, was commenced, on an azimuth of 88° 43′ 45″. The measurements had to be made down the steep mountain sides, where the greatest care was needed to secure exact allignment, and horizontal measurements with the steel ribbon. Only three stations were made this day, on account of the difficult nature of the ground. September 2d was Sunday, and rained nearly all day. On the 3d work was resumed on the transit line, the force now reduced to five men, but were able to make thirteen stations, and measure 4,100 feet of line, over rough ground. "Sent out for two more men to act as pioneers to clear the line, so that we may push the work forward as rapidly as possible, in accordance with the urgent desire of the Superintendent and my own duties in Virginia."

September 4th ran $7,890\frac{63}{100}$ feet of transit line and occupied thirty stations. Ground very rough, and bark slash, lumber slash and swamp. On the 5th nine stations were occupied and $3,064\frac{62}{100}$ feet of line run and intersection made with the township line, marked with a stone monument with drill hole centre. Another man injured to-day; Rodwell, badly cut in the foot by a miss stroke with an axe and had to be sent out to the settlements. Moved camp to southward on the township line to the north branch of Grasse river. Deer seem to be abundant and signs of bear are not infrequent. Wolves are reported to have been seen recently near this locality.

Assistant Crandall now returned to the monument set at the north-west corner of section No. 36 of Hollywood and by hard work twenty-nine stations were completed this day, and $5,279\frac{51}{100}$ feet of base-line measured. The line here runs over the west shoulder of Bald Hill, and across the "little windfall," which was found "extremely rough for measuring, and a bad place to run a line." At station 88, which is $20,916\frac{67}{100}$ feet north of the initial monument, the signal on Bald Hill was passed.

On September 7th, work was resumed at station 93, and $5,460\frac{15}{100}$ feet of base-line measured, twenty-two stations being occupied with the transit. At station No. 105, the north branch of the Grasse river was reached and located, and $26,847\frac{68}{100}$ feet north from the south-west corner of Hollywood, closed for the day near the top of a hard wood ridge called Brunner Hill the next hill north of Bald Hill.

September 8th resumed work at station No. 115 and ran 4,973$\frac{18}{100}$ feet, and occupied sixteen stations. Several important sub-corners of sections were located this day, and at evening, the line reached the stone monument at the terminus of the transit offset-line from Bog Mountain; being at a distance of 32,990$\frac{31}{100}$ feet from the initial monument at the south-east corner of the Township of Granshue.

Thus the boundaries, location and connection of the State lands in this section had been made, and the measurements carried out connecting the same with the surveys of the interior.

The 9th of September was severe and stormy. Rain fell heavily during the night, and it was also very cold. Having gone into the field very lightly equiped the party was without tents and the journal of the assistant states: "camp without any thing but a camp fire is cheerless in such weather."

Nevertheless work was resumed at once. Returning along the line, the transit was set up at station No. 88, and a traverse line was run eastward to Bald Hill. Here, the signal station was now completed, and centred over the last station on the traverse, and observations taken to such signals as could be seen.

Thus the lines were connected with another station and the orienting and platting of the results of the survey upon maps made easy and accurate.

This completed the field work in this section for the season. Mr. Crandall's private survey work in Virginia did not admit of his taking up any additional section, and the lateness of the season and limited means, did not authorize me to organize a new survey party for this district.

On September 11th, Mr. Crandall rendered his report and completed his accounts and departed for the South.

The work thus done, in the County of St. Lawrence, affords not only the technical information required, but adds some important facts to our stock of information in regard to terrestrial magnetism.

The boundaries of the townships of Granshue and Hollywood, had been run in the year 1800, on magnetic north and south and east and west lines. The observed bearing of these lines during the present remeasurements showed a change of 4° 43′ to the westward in eighty-three years. The declination of the needle, as observed on Bog Mountain August 23d, 1883, was 5° 59′.2 west of true north. There is great local attraction of the needle in this vicinity, and all azimuths are based upon the meridian line here determined.

The declination of the needle in 1883 being...... 5°59′.2 West,
and the change in the average magnetic bearing of
the lines retraced being (since the year 1880).... 4°43′.0 West,
shows a difference of .... 1°16′.2 West,
which was the declination of the needle in the year 1800 at this station.

This is an important discovery; for it shows that, at the time when Medad Mitchell first traced out the boundaries of MaComb's purchase, the idea which was then entertained, that the magnetic needle pointed along, or nearly along, the meridian, was not without foundation in this part of the great patent.

Indeed, so irregular is the needle in its pointings in this vicinity, that there is every evidence that stations may be found, in the immediate neighborhood of Bog Mountain, where the marked lines will show that the compass pointed along the true meridian at the time of the original survey.

It is deeply interesting, to any student of terrestrial physics, to discover, within the limited area of one of the great land patents of New York, such diverse conditions in the magnetic constants, far back at a period when man's innovations had not been made, before the forest had heard even the distant echo of the lumberman's axe, or the solid rock had been blasted asunder for its wealth of iron. It would be interesting to extend this study so as to ascertain whether the changes in the location of the lines of magnetic force are in any way dependent upon changes in the mean atmospheric temperature or moisture.

The most important fact disclosed is, that, although in this locality the declination of the needle is generally several degrees less than the average in the southern and eastern portion of the Adirondack region, yet the *change* in declination, during the last century, has been almost the same here as in the other sections, where the westerly declination is, and has always been greater.

The time at my disposal will not admit of further discussion of this very interesting subject.

The measurements by which the State lands were located in this section and connected with the trigonometrical stations of the Adirondack Survey, have been sufficiently explained. The maps, accompanying this report, will show the position of the lots and the survey lines and the location of the monuments marking the corners.

Much valuable work could be done in the County of St. Lawrence were adequate means afforded. As it is, the orientation of a most important system of lines has been accomplished, and the data needed for the preparation of the maps of the State lands here has been secured.

SECTION X.

WARREN COUNTY.

STATE LANDS AT LAKE GEORGE, ETC.

The lands owned by the State in the County of Warren are — with the exception of the islands in Lake George — of small area and of less value than those which have been heretofore described.

The surveys, made by my direction, of the Upper Hudson and the Schroon rivers — the former in 1879 and the latter in 1880 and 1882 — together with the points determined by triangulation of the Adirondack Survey, gave many of the essential features of the county needed in mapping the lands. The location of the southwest corner of the county has been given in the section relating to Palmer's purchase.

The total area of State lands in the County of Warren is 30,683 acres. Very small areas, if any, of real and entirely untouched primeval forest, now remain within the limits of the county. The streams being nearly all suitable for log-driving, this county was, at an early date, stripped of its best pine; and the choice spruce and hemlock have now followed, to a great extent, the first mentioned and more valuable evergreen.

Within the limits of this county is the town of Glens Falls, where the entire volume of the Hudson river has been made available by nature for the use of the busy saw-mills, which have reduced so great a portion of the forest into valuable lumber.

Yet while the facilities for transportation, for milling and for market, have so greatly reduced the extent of the original growth of the evergreen forests in the County of Warren, it must not be supposed that the deciduous trees have been equally cut away. The red beech, the gigantic yellow birch, maples of many kinds, and elms and other "hard-wood" forest trees, still cover vast extents of country, sheltering or hiding some groups of cedar, spruce and other evergreens, and the young second-growth pines.

Early in August I sent an agent to make inquiry as to the condition and value of the State lands in this county. He was also instructed to ascertain whether any questions had arisen as to the lots owned by the State. No special complications in regard to boundaries were reported. The value of a large number of the State lots — mostly covered with hardwood, balsam and other timber, not commercially esteemed — was obtained by careful inquiry and found to range from $1.00 to $1.50 to $2.00 per acre.

In preparing the map of the allotments, which show the State lands in this county, I had found the old compass bearings to indicate the presence of magnetic iron in the country rock at some places. To obtain accurate data for the present map work, I, therefore, had the declination of the needle observed, at thirteen different stations in the towns of Stony Creek, Thurman, Johnsburgh, Chester, Horicon, Warrensburgh and Luzerne. The time at my disposal does not admit of my discussing the results of these observations. The observations were carefully and well made by Mr. N. L. Rush, who was detailed for that purpose, and will be found in the appendix on the Variation of the Needle (Magnetic Declination) at the rear of this report. At all of the stations occupied, the needle was found to point to the westward of true north. The minimum was 9° 46′ west and the maximum 13° 10′ west.

Early in the spring of 1883, I was requested by the Senate Committee on State lands to furnish information relative to the number and location of the Islands in Lake George, the greater part of which are owned by the State and are very valuable. In accordance with their request, I, therefore, caused investigations to be made, and soon ascertained that the location of the islands could only be secured by special survey. I had long before proposed to connect the shores of Lake George at several points with the triangulation of the Adirondack Survey. In 1881, I had established a number of trigonometrical stations on the adjacent Adirondack spurs, with a view to obtain bisections on points on the shores of this lake, so that its geographical position might be determined. Much valuable data was then obtained; but the location of each of the islands, and the precise survey of the shore line of the lake, were found to involve a greater outlay of time and means than could be afforded.

The reconnaissance made in 1881 developed the fact, that the tertiary triangulation, which would be needed to locate the shore line of the lake itself, would be difficult at several points, on account of the irregular clusters of islands impeding sight lines. If the lines were shortened the triangles would become ludicrously small, — if any attempt were made to locate the islands — and such small triangle sides would not properly answer as new bases for the larger lake triangles across wide water to the next cluster of isles.

To simplify the work and to avoid needless complications in the measurements and computations, I resolved to have the survey for the location of the shore line and islands, made while the lake was closed by ice. By means of base-lines, carefully measured upon the ice, the tertiary triangulation could be checked and verified; while, from the termini of such base-lines, single reference lines could be measured through each group or cluster of islands, and offsets measured to right and left from such reference lines would determine the location and distance of the ends and shores of islands, points of promontories, depths of bays and all necessary details.

In accordance with this plan, I directed assistant D. M. Arnold, civil engineer of Ticonderoga, who was familiar with all the localities along Lake George, to take charge of a survey party, and furnished him with a diagram showing where the necessary base-lines and offsets were to be measured. He was provided with two standard graduated steel ribbons with spring balance handles and thermometers, and was directed to allign personally the steel ribbon during measurement by transit; the "chain work" being intrusted to Surveyor G. L. Locke and one assistant. This work was executed during March and April, 1883, the ice being perfectly smooth and in fine condition for measurement.

Commencing at the signal station of the Adirondack Survey at Caldwell, on the grounds of the Fort William Henry Hotel, base-lines for the use and verification of lake work were accordingly measured and remeasured at every important point.

Between the signal station at Caldwell and the signal station at Rogers Rock fourteen of these base-lines were measured upon the frozen surface of the lake, and the termini substantially marked with nickel plated copper bolts set in the rock.

The means at my command were so limited that this work had to be discontinued upon the completion of these lines.

The data immediately needed was, however, secured, and much important information in regard to the islands in the lake, which is herewith transmitted.

NEW YORK STATE LAND SURVEY.

VERPLANCK COLVIN,

Superintendent.

PLATE No. 11.

REPORT 1884

Moss Eng. Co., N.Y.

Weed, Parsons & Co., Printers, Albany, N.Y.

HOHEN-RAUCH.

"SMOKY ATMOSPHERE" IN WINTER, LIKE THE DUST HAZE OF THE GERMANS.
TO LONG SIGHTS IN TRIANGULATION.

The following is a list of the islands in Lake George owned by the State and of adjacent islands owned by private parties.

All of these islands excepting Willow Island and Prisoner's Island and one or two small islands near the outlet of the lake are in the County of Warren.

I regret that the time at my disposal does not admit of my entering into a more extended account of these beautiful islands; which are, undoubtedly, among the choicest possessions of the State.

LIST OF ISLANDS IN LAKE GEORGE.

NAME OF ISLAND.		Town.	Remarks.
A.			
Agnes Islands (with small isles)	4	Hague	Opposite Sabbath Day Point.
"As you are" Island	1	Bolton	Owned by the State. (In narrows near west shore.)
B.			
Baby Island	1	Bolton	Near 14-mile Island.
Belview Island	1	Bolton	West of Dome Island.
Big Burnt Island	1	Bolton	Owned by the State. (In narrows, middle lake.)
Black Rock Island	1	Bolton	North of Little Harbor Island.
Burgess Islands (another near)	2	Hague	South of Hulett's Landing.
C.			
Canoe Island	1	Caldwell	Canoe Club. (Caldwell.)
Clay Island	1		Owned by G. W. Clow, White Plains, N. Y.
Cotton Island	1	Bolton	
Cook's Island	1	Hague	Hulett's Landing. In from of Cook residence.
Crown Island	1	Bolton	Owned by heirs of William Smith. (Near Green Island, 1 mile S. W. Tongue.)
D.			
Diamond Island	1	Caldwell	Sold to Ashmead.
Dollar Islands	2	Bolton	Owned by the State. (West shore north of French point.)
Dome Island	1	Bolton	Owned by heirs of Wm. Smith. (Sold.) S. E. of Bolton.
Duke's Island	1	Caldwell	East S. and Diamond Island.
E.			
Elizabeth Island	1	Bolton	Owned by the State. (In Kaatskill bay.)
F.			
Floating Battery Islands (1 large and 11 small isles)	12	Bolton	Owned by the State. (The group is located south of the "Mother Bunch" on the east shore of the lake.)
Flora Island (and two small islands)	3	Bolton	Owned by heirs of William Smith.
Fork Island (and two small rocky isles)	3	Bolton	Owned by the State. (North of Big Burnt in the Narrows.)
Fourteen-mile Island	1	Bolton	Owned by heirs of William Smith.
G.			
Gem Island	1	Bolton	Owned by the State. (Occupied by a club.)
Gillette Islands		Hague	Near Meadow point.
Glen Island	1	Bolton	Owned by the State.
Gourd Island	1	Bolton	North of the Coup, West of Big Burnt Island.
Grass Rock	1	Bolton	
Gravelly Island; and three isles north	4	Bolton	Owned by the State. (About half mile N. E. Pearl point.)
Green Island	1	Bolton	Sagamore Hotel property; near Bolton.
Gull Rock	1	Bolton	Owned by the State. (Opposite Hague.)
Gull Rock	1	Bolton	Near Dome Island.

H.			
Halfway Island	1	Bolton	Owned by the State; in Mountain Bay. (West shore north of French point.)
Happy Family Isles	4	Caldwell	Owned by the State. (South of Dome Island.)
Hatchet Islands	2	Bolton	Near Floating Battery Islands.
Harbor Islands (group altogether called)	7	Bolton	Valuable and beautiful islands. Surveyor reports claimed by holder to have been deeded away by State.
Hen and Chickens (one group)	1	Bolton	Owned by the State. (South of Fourteen-mile Island.)
Hiawatha Island	1	Bolton	Owned by Dr. Jacoby, N. Y. (Next south of Leontine Island.)
Huckleberry Island	1	Bolton	Shelving Rock bay.
Huckleberry Island	1	Bolton	Owned by the State (Bare rocks S. E. from 14-mile Island.)
Hulett's Island	1	Hague	Near Hulett's Landing.
I.			
In Red-rock Bay and vicinity, a group of half a dozen rocks		Bolton	Along the east shore.
J.			
Juanita Island	1	Bolton	
Juniper Island	1	Hague	Owned by the State. (South end Rodger's rock.)
L.			
Leontine Island	1	Bolton	Owned by the State. (In Bolton bay S. of Mohican House.)
Little Harbor Island	1	Bolton	Owned by the State. (South French point.)
Log Island	1	Bolton	South of Shelving Rock.
Long Island	1	Bolton	Sold to D. S. Sanford, of New York.
Loon Island	1	Hague	Near Meadow point.
M.			
Mallory Island	1	Hague	East shore south of Clark Hollow.
Mother Bunch Islands (group including one tree island and Pine Island)	12	Bolton	Owned by the State. (Next south of Harbor Islands.)
N.			
Narrows Island	1	Hague	Near mouth of brook Hulett's.
Noble's Island	1	Bolton	Near Bolton line and Hulett's Landing.
O.			
Odell Islands (with small isles)	1	Hague	Owned by the State. (North of Bluff Head at Gillett's.)
One Tree Island	1	Bolton	South of Floating Battery.
P.			
Perch Island	1	Bolton	Near Big Burnt Island, E. shore.
Perch Island	1	Bolton	Near Shelving rock.
Phantom Island	1	Bolton	Owned by the State. (West of Gravelly Island.)
Phelps Island	1	Bolton	Owned by the State. (Near Tongue Mt. point.)
Phelps Island (and three isles north)	4	Bolton	Near Turtle Island.
Pine Island (and eight small isles)	9	Bolton	South of Turtle Island near Tongue Mt. point.
Prisoner's Island (and two small isles)	3	Ticonderoga	Essex county.
Pudding Island	1	Hague	

LIST OF ISLANDS — (*Concluded*).

NAME OF ISLAND.		Town.	Remarks.
R.			
Ranger Island (and one small isle)	2	Bolton	
Recluse Island	1	Bolton	Owned by Eben Barton.
Refugee Island	1	Bolton	Owned by the State.
Reid's Rock	1	Caldwell	Mouth of Orcutt's bay.
Rock Brother's Island	1	Hague	Near east shore, south of Blair's bay.
Rock Dunder (and another near)	2	Hague	South of Meadow point.
Rocks in Red Rock bay (see I.)			
Round Rock Island (and five small isles)	6	Bolton	Paradise Bay.
Rush Island	1	Bolton	Near Double-head point.
S.			
Scotch Bonnet Island	1	Hague	Owned by the State. (West shore 3 miles south of Hague.)
Ship Island	1	Bolton	West of Pearl point, south of Juanita Island.
Skipper's Jib Island (one small island in vicinity not named)	2	Hague	North of Van Buren Bay.
South Island	1	Caldwell	Near West Point and Harris Bay.
Steere Island	1	Bolton	Owned by the State. (North of Harbor Island, west shore.)
T.			
Tea Island	1	Caldwell	Sold to Van Cortland.
"The Coup" group (all large and small)	8	Bolton	Near Big Burnt Island.
The Three Brothers	8	Bolton	Owned by the State. (South of Recluse near west shore.)
Three Sirens (and one small isle)	4	Bolton	Opposite Black mountain.
Turtle Island	1	Bolton	Owned by heirs of William Smith.
U.			
Uncas Island (and two isles west)	8	Bolton	Owned by the State. (Occupied by private parties) N. W. Pearl point.
V.			
Vicar's Island	1	Hague	Owned by the State. (North of Harbor Islands, west shore.)
W.			
Waltonian Islands (group of 5 and 2 small isles)	7	Hague	Owned by the State. (South of Friend's point.)
Watch Island (and 4 small isles)	5	Bolton	Owned by the State. (North of Black Mt. point.)
Whale Island	1	Hague	North of Meadow point.
Willow Island	1	Ticonderoga	Essex county.

I regret that the cost of the work in the other departments, where the location of disputed boundaries was so necessary, did not leave sufficient means to make a complete survey of Lake George. The total number of islands — large and small — in accordance with the above enumeration would be in round numbers one hundred and seventy-five. Upon the completion of the survey, those only will be termed islands that bear those characteristics of area and verdure, which appear to entitle them to the name. The smaller rocky projections covered with a few bushes or trees, should be called Isles; while the narrow almost submerged and sloping reefs and sharp projecting rocks will suggest their own proper titles.

SECTION XI.

TRIANGULATION.

CONNECTION OF THE BOUNDARY LINES WITH THE SURVEYS OF THE INTERIOR.

The law of 1883 requires the present survey to connect its measurements with the surveys of the interior. The most rapid and accurate method of accomplishing this result was by triangulation, and by this method alone was it practicable to bring the detached land patents into any one harmonious system.

A great deal of consideration had to be given to the extent and character of this department of the survey. Triangulation, while accurate, is extremely expensive in a mountainous region, where the ponderous instruments, tents, baggage, and provisions of a survey party have to be carried by hand and on back over rugged ranges, across morasses and through almost impenetrable forests, where the labors of a corps of pioneers are needed to clear a pathway. Yet, great as these impediments are, they are only incidents when compared with the delay of work, and consequent unavoidable increase of cost, occasioned by the generally prevailing cloudiness or haziness of the atmosphere in the Adirondack region at elevations of from 3,000 to 5,000 feet above the Sea (between latitudes 43° and 45°), which cuts off from view, the distant mountain peaks and signal stations in one direction or another, beyond all remedy, for long periods of time.

Among the high peaks of the Adirondacks I have experienced ten consecutive days of rain at one time and at another, during a month's stay upon a mountain summit, 4,900 feet above the sea, had but three or four really good hours for nice work, in as many weeks. This condition of the atmosphere is common among the mountains. Innumerable other instances might be given, but those mentioned will explain what I mean by the delay and cost, which the natural atmospheric conditions cause, when working on mountain summits.

Considering, therefore, the questions of time and expense, the stations which it would be absolutely necessary to occupy, and the probable time within which the work at each could be done, I formed the plan that was carried out, as hereafter described.

I determined to connect the surveys of State lands in Clinton County, near Chazy Lake with the adjacent Adirondack Survey triangulation station on Lyon Mountain, and thus determining their geographical position. The lot lines in Essex county were to be tied by measurement to the Adirondack Survey signals, in the interior, on the summits of Mount Marcy and Mount Whiteface and intermediate stations.

The converging lines of the ancient land patents in the Counties of Warren, Saratoga and Hamilton were to be tied to Mt. Hamilton, Snowy Mt. and the adjacent signals.

The boundaries in the counties of Fulton, Herkimer and Lewis I proposed to connect with signals upon Mt. Jerseyfield, Pen Mount and Gommer Hill; and those in the counties of St. Lawrence and Franklin with Moosehead mountain, Bog mountain, Mt. Azure, De Bar mountain and the station St. Lawrence. The manner in which this was finally done has been already outlined in this report.

In practice, the plan, like all plans, was found to require much more work than was desired. Additional signal stations were found to be needed. Low ranges of mountains, hitherto deemed of little importance, now asserted their consequence, by being just sufficiently high to cut off the view of certain signals. All of these difficulties were met at once and overcome, but not without great toil, care and exposure.

An account has already been given of the work done, at the signal stations on Mt. Jerseyfield, Gommer Hill, Mt. Azure, etc., and need not be rehearsed.

The new signal stations erected during the past season are as follows:

Mt. Iroquois	Essex County.
Mt. Clinton	Essex County.
Mt. Jerseyfield	Herkimer County
Bald Mountain	St. Lawrence County.
Myers Hill	Oneida County.
Sanborn Hill	Clinton County.

Birch Hill	Clinton County.
Pyon Station	Clinton County.
Caanan Station	Clinton County.
Clear Pond	Essex County.

The other stations used were:

Mt. Marcy	Essex County.
Mt. Whiteface	Essex County.
Mt. Hamilton	Hamilton County.
Mt. Azure	Franklin County.
Sable Mountain	Essex County.
Hopkins' peak	Essex County
Camels Hump	Essex County.
Lyon Mountain	Clinton County.
Mt. Manning	Clinton County.
Snowy Mountain	Hamilton County.
Moosehead Mountain	St. Lawrence County.
Bog Mountain	St. Lawrence County.
Gommer Hill	Lewis County.
Pen Mount *U. S. C. S.*	Oneida County.
Gore Mountain	Warren County.
Cathead Mountain	Warren County.
Crain's Mountain	Warren County.
High Dune	Herkimer County.

The triangulation was prosecuted until the middle of November, when the severity of winter, and furious storms upon the mountain tops, made it unadvisable to continue work.

The observations at the principal stations not occupied by myself were made by assistant Blake. Assistant Koetteritz on Snowy Mountain,* and assistant Farnsworth at St. Lawrence met with specially unfavorable weather. In the midst of a furious snow storm in October, the tent sheltering the survey party on Snowy Mountain was destroyed and blown from the summit, and the men were compelled to seek shelter, in an icy ravine on the crest, until morning. Those who know any thing of the cliff-walled summit of this peak, and its wild and savage appearance, can appreciate the sufferings of this party in their efforts to secure the measurements needed.

On Mount Marcy and Whiteface during October and November much more severe weather was met with. The party here was an experienced one; assistant Blake and the guides having encamped with me upon those ledgy summits during previous winters, knew in advance what had to be encountered. Nevertheless, tents crushed and torn, and frost-bitten feet, were some of their reminiscences of October above the timber line on these mountains. Yet the measurements were accomplished; and with the satisfaction of work well done, the hardships and exposure endured became almost a pleasant remembrance.

---

* This party had charge of the third section of work in Hamilton county, limited — owing to weather — to the signal station mentioned.

It may be necessary to explain to those who do not understand the shortness of the Adirondack summer season, and the limited time in which, by law, the results of the survey have to be reported to the Legislature, that the early part of the field-season from the time of the passage of the law (June 4th) to the end of August was of necessity wholly occupied by the land surveys, and the documentary researches necessary thereto. Not until the land surveys had reached a considerable degree of completeness was it possible to determine what angles it would be necessary to observe, in order to connect these freshly made surveys, with the measurements which we had made in former years.

The entire available survey force was also engaged until September upon the land surveys, so that the observers were not available until the boundary work had been completed in several sections. Thus it came that the winter work upon the mountain peaks was necessary.

At two stations the large twenty-inch theodolites, constructed by Oerthling of Berlin, were used, and at two other primary stations a twelve-inch theodolite by Fauth of Washington was employed.

The large 20" theodolites were those employed on the survey of the great western Lakes, and were issued to me by the Chief of Engineers of the United States Army. They were mounted upon massive oaken tripods with heavy cast-iron heads, the horizontal limbs being made to shift for position so that repetitions of angles could be easily secured without disleveling the instruments. The observations at the other stations were made with more portable instruments. At the time of writing the study of the various complications affecting the boundary lines of lands have required every attention and the reduction of the field observations in triangulation are in progress, but not completed. They will be urged forward with all possible speed.

An idea of the experiences of the parties engaged on the work of triangulation during the commencement of the Adirondack winter may be had from the following brief extracts from my own journal while on Lyon Mountain October 29th. (See plates No. 12 and 13.)

CAMP IN THE SNOW.

"Seven days have now passed of continuous storm. Although it has been snowing steadily, the crystals are light and fleecy and easily blown before the wind. The dense fog of the clouds still envelopes us night and day and, by a curious law of crystallization by contact, have converted the entire dwarf forest into a glittering pearly mosaic — every limb, bough or minute evergreen leaf sparkling with frost-work and glorious in the contrast of its spotless purity with the rugged moss-covered tree trunks, gray stems and the almost entirely hidden dark green of the balsams."

It is a wild and singular place for a camp. The tent, secured by ice-hung ropes,shut in by the trees bending beneath their load of mingled cloud frost and feathery snow — the wild eddying fog, the silence unbroken, save by the rush of the wind through the forest or the dull thud of the axe of the guide chopping wood for the little sheet-iron stove within the tent — the sense that we are alone upon the summit of this wintry peak — so isolated and "by the world forgot" — all forces itself upon us. The place seems like an enchanted wood, not made for man; and we intruders. Yet at morning, when the sun — quite invisible — has nevertheless filled the cloud we live in with its diffused light, the little duties of the camp, the fastening down of the tent pins loosened by the storm during the night — the reading of the minimum registering thermometer, the journey of a hundred paces to the ice-hung and cloud-wrapped signal, are events, and Hope, ever asserting itself, still looks on to the breaking away of the storm, the clearing of the skies, and the taking of the observations for which ice and snow, storm, cold and exposure are being endured.

* * * * * * * * * * *

RED SNOW.

November 3d the storm began to be less severe, the violent gusts of wind (which had accompanied the fall of the round hail-like snow) had subsided, and the air was becoming sufficiently clear to see the ice covered spruces four or five hundred feet away. The clouds, however, were dense and prevented any view beyond the short radius mentioned. There was nothing to be done but march up and down in the snow outside the tent for the sake of exercise, and while thus engaged I was surprised to notice that about an inch below the surface of the last pure bluish-white snow that had fallen, there was a layer which had a darker color, and under close inspection proved to be of a slightly reddish or pinkish hue! This dirty pink color was very noticeable by the contrast with the white snow above and below it where a section has been made.

Surmising that this discoloration of the snow might have been occasioned by smoke from the little sheet-iron stove I went a distance into the forest along the mountain side — a sufficient distance to avoid any such possibility — and cut into the snow repeatedly only to find the same result, a very faint red or pinkish layer of snow, about one-quarter of an inch thick, and one inch below the surface. I could not account for the phenomenon, and deeply regretted that I had no glass phials in which I could collect this snow and preserve it, even though only in the form of water, for examination. It is claimed that such red snow has been seen in the Alps and was attributed to fine dust carried by furious winds from some great volcanic eruption. I am not aware that any such volcanic disturbance had occurred within months of the time of the observance of this snow, but consider it proper to record its appearance as a matter of scientific interest.

"HÖHEN-RAUCH."

"November 2d. The dry fog which has so plagued us for years, still obscures the horizon and cuts off all view of distant signals. I cannot, even with the most powerful telescope distinguish the Sanborn Hill signal at Chateaugay Lake. Was there ever such provoking weather? If it were summer the guides would say it is "smoke" and advise me to defer observations until "cold weather." Now that it is cold weather they have nothing to say. It is probably "smoke" like that which we encountered in 1881 only more diffused, and accompanied by atmospheric vapor. The cold rains which preceded our arrival on the mountain have failed to wash the air clear of it, or even to remove it at all.

"Now, although snow has been falling for so long a time the *dust-haze* or Hohen-rauch is as omnipotent as ever and, like a dark smoke cloud, closes in the horizon. Neither De Bar Mountain, Mt. Azure, Whiteface nor any of the prominent peaks are to be seen, much less the lowland signals of the land survey.

"We have but to watch and wait, however, the mountain summit cannot be left until the necessary observations are secured — whatever the difficulties and hardships may be. The fact that our labors and exposure on this ice-clad peak will not be appreciated or even understood, is no reason why we should falter in the work.

"November 3d. There are indications of a thaw. If the atmosphere can get thoroughly moistened, and we can then have some strong gales the "smoke" may be cleared away and observations made. I am left with but one man now. The other could remain no longer. It is almost impossible to get men to encamp upon the mountain tops at this time of the year.

"November 4th. The haze begins to break away and I shall get some observations.

"November 5th, the last man has deserted and thus I am alone in camp. Cold and snow were too much for this fellow. Paid him off and was glad to have him go.

"Got some fine observations, although, being alone, I had difficulty in securing the canvas observatory against the high wind which arose at night-fall. Descended, however, at dark to the camp with the work at last accomplished, but had to cut wood, cook my own supper (thawing snow for water) and found house-work after dark, with my limited knowledge of the location of the utensils, rather difficult. Put out the light at 9 P. M., wrapping up in soft and comfortable blankets, stretched myself upon a deep couch of evergreens and rested well until morning regardless of the catamount or lynx, which had so recently been the discussion of the camp."

* * * * * * * *

The office work of the triangulation is in progress and the results will be hereafter given.

SECTION XII.

ELEVATIONS.

The heights of the mountains, lakes, passes, and routes through the great forest, I have already given in the preceding reports of the Adirondack Survey.

It is desirable in the present report that a general idea of the average elevations should be given of the several districts, where lands are owned by the State, to afford an idea of their climate and value. For this purpose, special observations have been made, and the results, after consideration, take the following form.

The State lands in the Jerseyfield, Lawrence and adjacent patents, are in a section where the hills or ranges of hills have a height of about 2,400 feet, and the lowlands 1,800 or 1,900 feet above the sea. The average would be low, if placed at 1,900 feet for lands both north and south of the county line.

In Clinton County, rejecting from consideration the arid lands in the Flat-rock district etc., with Chazy Lake (1500 feet) as a minimum, we may assume for the State lands in Township 5, and the vicinity an average elevation of 1600 or 1700 feet above the sea.

In the counties of Lewis and Herkimer, the State lands are so scattering, that an estimate of their elevation would be of little value. The average elevation of lands in these counties might be put at between 1200 and 1300 feet.

In the more elevated districts of Fulton and Hamilton counties, we find some mountains reaching heights of about 3,900 feet above the sea; while the lowlands reaching nealy their lowest lands at Wellstown, (950 feet,) Lake Pleasant (1,706 feet,) Raquette lake, (1,774 feet,) Blue mountain lake, (1,800 feet,) and West Canada Lakes (2,348 feet) show the diversity which is to be expected in so large an area.

Considering this district in separate sections, therefore, the Benson lands would have an average height of 900 to 1,000 feet.

The State lands in Palmer's purchase may be averaged at 1,100 or 1,200 feet above the sea; while northward, in township No. 3 of Totten and Crossfield's purchase, they reach elevations of between 2,000 and 3,000 feet.

In Essex county, the State lands are in so many locations, that an average elevation can hardly be given. In the town of Keene they are principally located between 1,800 and 4,000 feet above the sea; being upon the sides of mountains. In the other portions of this county, the State lands are generally located at less elevations, although reaching very great altitudes in North Elba and Newcomb.

In Franklin and St. Lawrence counties, the State lands are generally well located, at De Bar mountain (3,011) alone reaching any considerable height. The average elevation of the lands may be placed at about 1,700 feet above the sea.

No average height is estimated for the State lands in Warren and Saratoga counties, as they are too much scattered to make any estimate of value. The lands at Lake George rise but little above the surface of the water which is 343 feet above the Sea.

From these average elevations, it is easy to perceive, that these lands are not generally suited for profitable agriculture. Between 1,500 and 2,000 feet above the sea frosts are not uncommon in summer, and I have known the entire crop of Indian corn in one of the most fertile valleys, having an elevation of only 900 feet above the sea, destroyed by frost in a single night early in August.

Oats, however, and other hardy cereals can be profitably grown upon lands reaching an elevation of 2,000 feet above the sea, and potatoes will thrive wherever there is sufficient soil to cover them.

It is possible that sheep and hardy cattle may be raised on the lowlands, but the hay crop is insufficient for the long and tedious winters.

Much of the region must of necessity remain a forest, and the natural moisture of the climate and frequent light rains, are very favorable to tree growth.

SECTION XIII.

RAINFALL.

While conducting the Adirondack Survey, I caused regular, systematic observations of the rain-fall, to be taken at a number of stations in the northern district of the State. These daily observations have now been extended over a period of five years.

Some of the stations are in the immediate vicinity of the State lands.

As the greatest public interest now exists in the rain-fall of this section of the State, it seems proper that these observations, taken for the express purpose of ascertaining the actual local coefficients of precipitation, should in this report be made public. This is the more important as questions now pending, before the Legislature, in regard to the future management of the public lands, are largely based upon the proposition that the forests covering these lands are more or less essential to the proper and regular maintenance of the existing rain-fall, and, consequently, of the normal flow in the streams which have their rise in this region.

That the sources of the Hudson river, and of some of the principal tributaries of its affluent, the Mohawk, are located in this vast forest region, and that the great Canals of the State, depend upon these streams to a large extent for their water supply is a fact which must be admitted by all. The State has located elaborate and costly reservoirs, at many points, in the Adirondack region, notably at the Woodhull and adjacent lakes, where what is called the main branch of Black river, which heads south of the Brown tract, has been diverted for the purposes of the canals, and now divides its flow between its ancient channel and the water courses which run to the Hudson.

When the dimensions of the feeder and the great volume of water which it delivers at Boonville are considered, we cannot wonder at the complaints that have arisen along the lower portion of the Black river valley, at Carthage and at Watertown, by mill owners and others whose industries are dependent upon the water supply of this district. If after this exhibition of the exercise of the right of eminent domain, these people view with alarm the proposed cutting of great areas of forest, upon the balance of the water-shed, on which they are now dependent for rain-fall, and appeal to the Legislature for aid to prevent such cutting away of the forests, we can certainly perceive that real, substantial reasons exist for protection, and relief from their grievances.

Another and similar case is found upon the Champlain canal, where the waters of the Hudson are poured through the Glen's Falls feeder, to the summit level of that canal, fed northward to Lake Champlain and the St. Lawrence as well as southward to its natural channel in the Hudson. Here, also, great complaint is made by mill-owners and by navigators, that the volume of the river has diminished, and that they are entitled to relief from the State.

So, in numerous localities the appeal is made for more water, and the preservation of the forest upon the State and adjacent lands, is held to be indispensable to secure the rain-fall.

The question now assumes a scientific phase. If the inquiry be made: "Have forests any influence upon the rain-fall?" it must be answered in the affirmative.

The further inquiry: "How and in what manner?" opens almost too broad a field for present answer.

To prevent any misunderstanding, however, it may be well to say, that in this department of meteorology, as in the allied branches, so many elements enter into the problem, that a full discussion of it would require a special volume.

The influence of trees may, nevertheless, be summarized, for those who desire a general idea of their value in this respect.

Rain-fall is dependent upon two variable conditions.

(1st.) The temperature coefficient; composed (*a*) of the direct radient heat of the Sun, communicated to the Ocean or other bodies of water (*b*) of the transferred temperature of the atmosphere, also communicated to such bodies of water; [secondary elements such as organic heat, electrical influences, volcanic heat, etc., may be here disregarded.]

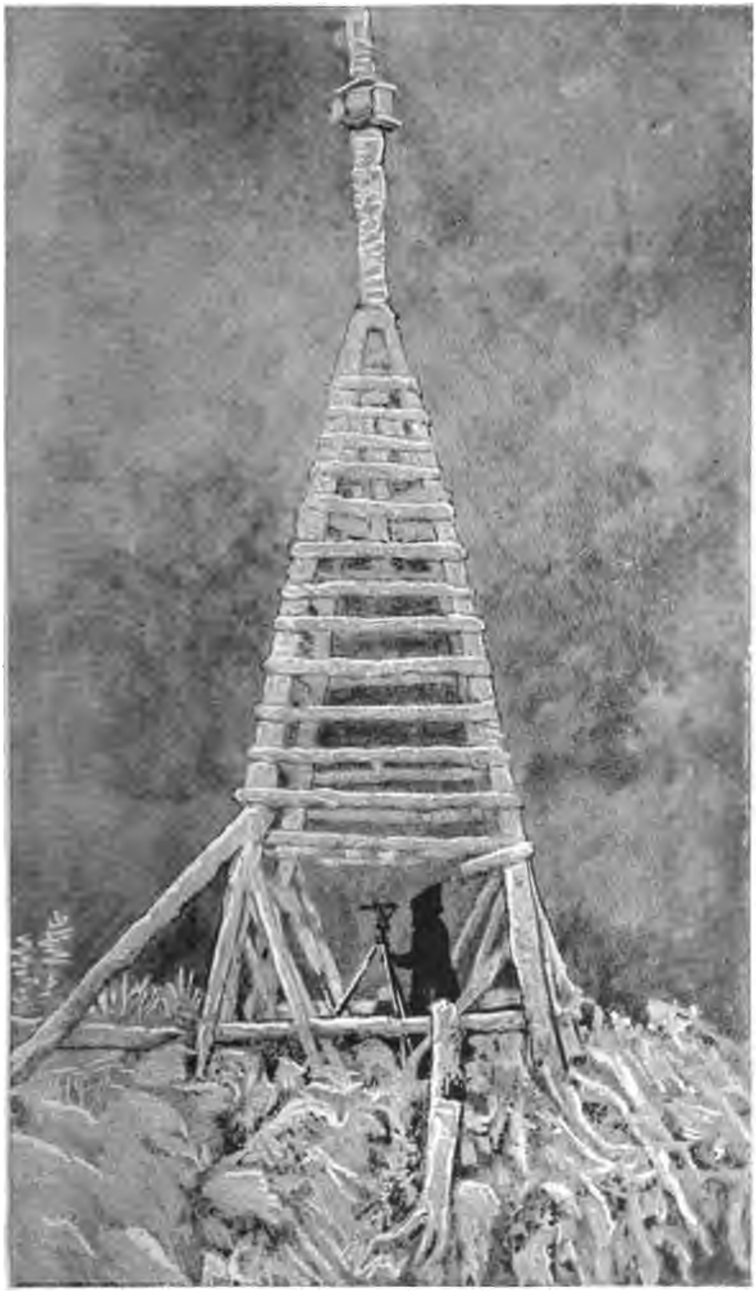
(2.) The vapor coefficient, dependent upon the temperature and atmospheric pressure.

Where the barometric pressure is slight, and the atmosphere thin,

NEW YORK STATE LAND SURVEY.

VERPLANCK COLVIN,

PLATE No 12 *Superintendent.* REPORT 1884



Moss Eng. Co., N.Y. Weed, Parsons & Co., Printers, Albany, N.Y.

CLOUD FROST.

SIGNAL ON MOUNTAIN PEAK ENCRUSTED BY FROST DEPOSITED BY CLOUDS
Oct. 29th, 1883.

water rapidly evaporates, and the intermolecular space is speedily occupied by the invisible vapor of the water.

In a word: by the heat of the sun the waters of the Ocean and the Land become converted into steam. This steam, a transparent, invisible gas and — in accordance with the law of diffusion of gases — mingles with the atmosphere, mechanically, apparently without combining with it. Into every crevice or cranny between the molecules of Oxygen and Nitrogen the transparent vapor flows, and thus the air is said to become moist, or wet. Now *wet air* is lighter than dry pure air, and, therefore, vapor of water rises, carrying with it the particles of air, among which it has become entangled.

Thus, we have the water in the atmosphere, ready to be precipitated as rain, by a sufficient change of temperature.

Now it is not the forests alone that have the power of decreasing temperature, however deep and cold their shade. Their influence is conservative and secondary, yet very important. They control and regulate local storms, and prevent undue evaporation; but of these hereafter. Primarily, the direction of storms, is affected by the arrangement of the oceans and continents upon the Earth's surface. The vapor, produced by the sun, occasions Ocean and atmospheric currents which, as they diverge from the Equator, are affected by the variable speed of rotation of the surface of the Earth with change of latitude. The approach to the pole of a moist equatorial wind causes condensation and rain-fall.

Thus, the amount of rain is affected by the latitude of the place; by the elevation of the ground; by the presence of cold ranges of mountains, acting either as condensers of moisture, or as the reverse of rudders, directing or deflecting the atmospheric currents.

Here we reach the influence of forests.

If these mountain ranges are covered with forest, they entangle the air currents, and deaden the wind, more than the bare rock alone could. This fact was familiar to the owners and users of huge old wind-mills of Long Island. A house or a block of houses interposing between them and the gale would not greatly interfere with the working of the mills. The wind would bound over houses with undiminished power; but a few trees, one or two hundred feet distant in a lot, destroyed the force of the wind, when it blew from that direction, and the mills would not grind.

Forests have consequently great power over the lower surface of the wind. A gale is a flow of a peculiar chemico-mechanical compound — diffused gases — and whatever changes the *force*, of a gale disturbs the arrangement of the molecules. It is not necessary to go into a discussion of atmospheric electricity, beyond remarking that this condition of force is equally present, whether invisible or in the form of lightning. Many differences of potentiality undoubtedly exist, and might, if studied, lead us to a more exact knowledge of the law of storms than is now possessed, but they cannot be considered here.

Aside from this question of meteorological mechanics and physics, are certain simple facts known to all, which prove the value of forests as conservators of moisture.

The snows of winter are shielded from the sun in the forest, and remain long after they have disappeared from the open fields. Thus, in spring time, the continued coolness of the woods aids to condense the warm, moist winds; and, after sufficient re-action, rain may be produced from clouds that, otherwise, would have passed by without any precipitation.

Similarly, in summer, great extents of cold, moist forest upon mountain slopes cannot but have their influence upon warm clouds overburdened with moisture, and by lowering their temperature, initiate the rain-fall. It is very possible that when rain has actually commenced to fall, and any great change is produced in the condition of the atmosphere, the latent heat of the vapor may be suddenly converted into electricity and flow off to the earth; then the clouds, reduced to a still lower temperature, would copiously precipitate rain.

The influence which trees and forests have upon the atmosphere is too well known, however, to require elaborate discussion. The pointed brush like tops of the pines are like so many electrical collectors, and their stems only too often serve as lightning rods.

In our dense northern forest areas, severe hail storms are very rare and one never hears of those enormous hail-stones, which in less favored localities, at times have ruined buildings, destroyed cattle or compelled man himself to seek secure shelter.

That this exemption is not due to our location, or to the latitude, I am able to prove.

In the Brant Lake region, in Warren County, is a great extent of burnt country. Here, repeated forest fires have swept away almost all the valuable timber, and gloomy wastes of arid rock and sterile sands are the result. The elevated rocky ridges would be every where exposed, but for the mosses and ferns and aspens, which through lapse of time have found a foot hold, and are endeavoring, in their humble way, to make good the injuries done by man. The aspens, or "popples" as they are locally called, are graceful deciduous trees, whose fluttering leaves and pale olive tinted stems, make them very picturesque. These trees, along the shores of Brant lake, have now reached an elevation often, of twenty feet; and, passing that way in 1880, I was astonished by the appearance of the stems, which upon one side were all discolored, blackened, knotted and drawn up as though by some disease. The peculiarity was that this appearance was all upon one side of the trees; and later on, studying the phenomena, more closely, I found a number of goodly sized trees from which the bark, on one side near the tops of the trees, had been cut away or hung in strings.

This singular injury to the aspens, continued for a mile or more. On careful inquiry, I learned, that it had been caused by a severe hail storm several years before.

Such an occurrence; a general cutting of the bark from the tree tops; has never come under my observation in the wilderness. Its occurrence in this semi-arid district is in accordance with the results of European observations, where it is claimed, the severe hail-storms always occur in deforested districts. This has been regarded in the light of an established scientific principle, and instruments have been devised to discharge the electricity of the clouds. M. Arago, the famous French philosopher, suggested that captive balloons provided with conductors, should be raised to great heights, and thus the electricity be drawn off sufficiently, to prevent the sudden change which produces hail.

Neither balloon nor paragrêle has yet, however, shown that it can compare in efficacy with the innumerable discharging points offered by a great forest. Indeed it does not require any great effort of intellect to perceive that a few slender conductors, even if elevated to a great height, cannot compare in power with the millions of natural conductors — the trees — that covering ridges, hills, and mountain ranges, struggle with general success against the wind, and perform the office of maintaining the electric equilibrium silently and efficaciously.

Hail is but one form of rain; if trees can influence the one, they certainly must have power over the other. The judgment of science is, that forests do exert a potent influence over the rain-fall. This influence is to be sought, in the regulation of the rain-fall, through the months and seasons, rather than in any increase or decrease of the normal precipitation.

Rain-fall depends primarily, as I have said, upon the sun's power of evaporation. What the sun converts into steam is condensed by cold — or by change of its heat into some form of correlated force — again into water.

It is, evidently, to man's interest that this evaporation, this absorption of water, shall be had from the Ocean as far as possible, or if the moisture be drawn from the Earth, that it be reprecipitated upon the Earth again. If the clouds should procure their moisture from the surface of the Earth, and pour their rain out only upon the Sea all the choice agricultural lands of the world would rapidly become sterile and worthless, and all organic life would disappear from the land.

It is, therefore, of the first importance that the natural conditions of rain-fall and evaporation as at present existing, should be maintained; and that trees shield the soil from the sun's rays, will not be disputed.

In the Adirondack region, the forestry question is complicated by many conditions.

There are many kinds of forest, and beneath each group of trees will be found a different sort of foot-hold.

The deciduous trees, beeches and maples, have usually, a thin deposit of leafy mould, covering sand or stones as the case may be. The evergreens on the contrary, grow in a deep "wooden-soil"; the "spruce-duff" in many places having a depth of several feet. Upon the high mountain sides this spruce-duff is often deeply covered with the most luxuriant peat moss, (*sphagnum*,) into which the foot of the traveler descends as though into snow; except that this vivid green moss is often a sponge of water. Its roots are usually dripping, and for weeks after rains have ceased, the explorer who attempts to climb these semi-alpine peaks will find his limbs drenched with icy water, from these deep peat mosses. This moss forms a little forest under the great forest. Thronging together, closer than the soldiers of the old Macedonian phalanx, each stem is a little evergreen six, eight, or ten inches in height from the root to the tufted top. Dying at the roots they form that peculiar humus, whose affinity for water is so great, that these peat mosses upon the mountain sides, have been called hanging-lakes; as though they were bodies of water suspended and held in this peculiar vegetation.

These deposits are found among the high Adirondack peaks at the sources of the Hudson, the Opalescent, the Boreas, the Schroon, the Au Sable and the Boquet rivers, at elevations of from 2,000 to

4,000 feet above the Sea. They are extremely curious and interesting. At lake Tear-of-the-Clouds, at Moss lake, at the lakes upon the summit of Wallface mountain; in the Elk pass, the Caraboo pass, in the Indian pass, and in all the gorges and ravines among the mountains, I have found these mosses, and these deep deposits of humus. Here we find rills and streams springing forth unexpectedly on every hand. Subterranean waters are heard gurgling deep beneath our feet, in the unseen channels, amid the wooden soil and humus. Each group of boulders that thrusts its head above the duff, has its cluster of water-pockets in the irregular cavities between. Here, we have the sources of our rivers, for at these altitudes, the gauge tells us, that the rain-fall of the region reaches its maximum.

The register of the observations, taken during the Adirondack Survey, is shown in the following tables:

S. N. Y.—ADIRONDACK AND STATE LAND SURVEYS.

Mean temperature and rain-fall records at KEENE VALLEY, *Essex Co., for the years* 1879, '80, '81, '82, '83.

Rain-fall record.

YEAR.	January. Inches.	February. Inches.	March. Inches.	April. Inches.	May. Inches.	June. Inches.	July. Inches.	August. Inches.	Septemb'r. Inches.	October Inches.	Novemb'r. Inches.	December. Inches.	Total rain-fall. Inches.
1879........	1.35	2.44	2.49	2.34	0.83	2.72	2.89	1.99	2.93	0.88	4.66	2.97	28.38
1880........	3.33	2.69	1.75	2.18	2.74	1.65	3.05	2.68	3.65	3.77	2.86	0.77	32 12
1881........	2.08	2.20	4.10	1.01	2.99	2.56	2.25	2 89	3.21	2.42	1.72	3.20	30.63
1882........	1.73	1.99	4.31	0 94	2.46	4 05	1.88	2.62	3.74	0.73	1.43	1.74	27.62
1883........	1.55	2.60	1.83	1.57	6.03	2.73	3.41	1.82	2.54	2.89	1.99	1.14	29.10

Altitude 1,000 feet above the sea.

Temperature record.

YEAR.	January. Deg. Fah.	February. Deg. Fah.	March. Deg. Fah.	April. Deg. Fah.	May. Deg. Fah.	June. Deg. Fah.	July. Deg. Fah.	August. Deg. Fah.	Septemb'r. Deg. Fah.	October. Deg. Fah.	Novemb'r. Deg. Fah.	December. Deg. Fah.	Yearly mean temperature. Deg Fah.
1879........	20.50	18.79	28.44	37.85	56.50	61 38	34.96	62.25	54.43	54.78	33.38	24.66	40.66
1880........	29.66	23.20	25.64	39.68	56.84	60.76	62.78	69.63	55.88	42.33	27.20	15.68	41.69
1881........	10 52	'4.71	28 26	36.12	57.05	54.84	64.07	63.64	62.49	44.84	34.94	31.69	41.93
1882........	18.37	25.07	28 43	36 35	41.83	58.76	63.83	62.79	54.90	47.24	28.96	20.00	40.54
1883........	12.35	•18.96	19.40	35.51	48.14	63.81	68.82	60.75	52.66	41.75	34.85	20.87	39.36

O. S. PHELPS, *Observer.*

Rain-fall records at POTTERSVILLE, *Warren Co., for the years* 1879, '80, '81, '82.

YEAR.	January. Inches.	February. Inches.	March. Inches.	April. Inches.	May. Inches.	June. Inches.	July. Inches.	August. Inches.	Septemb'r. Inches.	October. Inches.	November. Inches.	December. Inches.	Total rain-fall for the year. Inches.
1879.........	1.36	2.90	3.97	2.25	0.08	2.86	2.20	1.42	2.74	0.81	3.48	4.27	28.34
1880.........	2.04	1.26	1.46	0.75	3.56	1.19	2.46	1.28	2.62	3.21	4.47	0.91	25.21
1881.........	3.03	2.70	2.69	0.21	0.00	1.80	2.12	3.57	2.25	2.10	1.78	3.93	26 18
1882.........	1.08	1.70	3.35	1.04	0.76	1.71	3.11	1.34	1.87	1.03	0.86	2.18	20.03

Altitude nearly 900 feet above the sea.

L. and R. L. LOCKE, *Observers.*

Rain-fall records at EDMUND'S PONDS, *Essex Co., for the year* 1881.

YEAR.	January. Inches.	February. Inches.	March Inches.	April. Inches.	May. Inches.	June. Inches.	July. Inches.	August. Inches.	Septemb'r. Inches.	October. Inches.	November. Inches.	December. Inches.	Total rain-fall for the year. Inches.
1881...... ..	2.60	2.24	9.02	3.80	3.25	3.00	3.76	5.55	3.63	3.03	2.33	3.86	46.07

Computed annual means..1879, 42.66 inches; 1880, 43.31 inches; 1882, 41.21 inches; 1883, 43.80 inches. Altitude 2,000 feet above the sea.

N. MILLER, *Observer.*

Mean temperature and rain-fall records at PLATTSBURGH, *Clinton Co., for the years* 1880, '81, '82, '83.

Rain-fall record.

YEAR.	January. Inches.	February. Inches.	March. Inches.	April. Inches.	May. Inches.	June. Inches.	July. Inches.	August. Inches.	Septemb'r. Inches.	October. Inches.	Novemb'r. Inches.	December. Inches.	Total rain-fall. Inches.
1880.........	1.75	1.69	1.21	1.27	1.49	2.02	2.00	1.65	2.43	4.54	2.67	0.89	23.61
1881.........	1.60	1.13	2.36	0.30	2.93	1.27	2.35	2.57	1.99	1.84	1.50	1.76	21.59
1882.........	1.06	1.96	2.70	0.86	1.70	4.78	2.22	2.01	4.72	1.04	0.54	1.69	25.28
1883.... ...	0.99	1.37	1.66	0.86	4.39	3.20	3.40	1.17	2.49	1.81	1.75	0.96	24.05

Altitude 150 feet above the sea.

Temperature record.

YEAR.	January. Deg. Fah.	February. Deg. Fah.	March. Deg. Fah.	April. Deg. Fah.	May. Deg. Fah.	June. Deg. Fah.	July. Deg. Fah.	August. Deg. Fah.	Septemb'r. Deg. Fah.	October. Deg. Fah.	Novemb'r. Deg. Fah.	December. Deg. Fah.	Yearly mean temperature. Deg. Fah.
1880.........	27.38	21.51	25.37	41.67	59 80	60.48	69.92	67.52	61.47	46.46	30.84	18.69	44.76
1881.........	.....	.....	.....	. ..	. ...	.....	.....	. ...	.....	.. .	.....	.....	.. ..
1882.........	17.88	22.43	28.00	37.14	50.27	63.64	69.42	69.10	59.44	51.07	33.45	21.96	43.66
1883.... . .	11.99	17.70	18.29	37.90	51.88	66.59	68.15	66.50	56.50	44.59	36 88	21.01	41.19

GEORGE W. PRIES, *Observer.*

Mean temperature and rain-fall record at CLINTON PRISON, *Clinton Co., for the years* 1880, '81, '82, '83.

Rain-fall record.

YEAR.	January. Inches.	February. Inches.	March. Inches.	April. Inches.	May. Inches.	June. Inches.	July. Inches.	August. Inches.	Septemb'r. Inches.	October. Inches.	Novemb'r. Inches.	December. Inches.	Total rain-fall Inches.
1880	3.25	3.81	4.00	1.89	4.09	5.26	4.71	4.18	5.16	4.91	3.77	3.82	44.67
1881	3.69	3.13	3.98	2.06	3.90	4.82	5.06	6.12	4.98	4.21	4.61	4.25	50.81
1882	3.12	2.97	3.59	0.79	4.15	3.79	5.27	4.81	4.05	3.49	3.61	3.15	41.89
1883	3.86	3.34	3.42	2.22	4.85	5.06	5.85	4.70	3.50	5.17	5.02	4.19	50.68

Altitude 1,200 feet above the sea.

Temperature record.

YEAR.	January. Deg. Fah.	February. Deg. Fah.	March Deg. Fah.	April. Deg. Fah.	May. Deg. Fah.	June. Deg. Fah.	July. Deg. Fah.	August. Deg. Fah.	Septemb'r. Deg. Fah.	October. Deg. Fah.	November. Deg. Fah.	December. Deg. Fah.	Yearly mean temperature. Deg. Fah.
1880..........	22.45	26.80	30.10	42.37	51.89	67.81	67.90	65.73	58.36	45.18	33.29	20.09	44.29
1881..........	16.12	20.45	31 17	40.05	50.82	66.19	66 48	64.91	58.76	44.10	34.30	19.96	42.81
1882..........	21 19	21.10	30.65	41.27	52.10	64.80	67.20	66.05	56.27	42.63	35.85	24.60	43.88
1883.........	16.73	21.20	22.49	40.77	51.60	66.61	66.83	65 55	57.64	45.55	36.73	20.71	42.65

OBSERVATIONS BY HOSPITAL STEWARD.

Rain-fall records at ELIZABETHTOWN, *Essex Co., for the years* 1879, 80, ·81, '82.

YEAR.	January. Inches.	February. Inches.	March. Inches.	April. Inches.	May. Inches.	June. Inches.	July. Inches.	August. Inches.	Septemb'r. Inches.	October. Inches.	November. Inches.	December. Inches.	Total rain-fall. Inches.
1879........	....	....	....	. ..	....	. .	0.73	1.79	3.08	0.66	2.17	....	8.46-5 mos.
1880........	....	... .	... ...	....	...	0.74	3.81	1.62	3 84	4.09	2.46	....	16.56-6 mos.
1881........	. ....	....	....		2.51	1.89	2.00	4.72	2.68	1.75	0.17	.	15.72-7 mos.
1882........	....	... .	....	0.44	2.71	3.19	2.09	2.87	3.65	0.84	0.94	0.30	17.03-9 mos.

Altitude 552 feet above the sea. Computed annual means..1879, 17.91 inches ; 1880, 29.53 inches ; 1881, 26.69 inches ; 1882, 22.84 inches.

C. W. H. LIVINGSTON, *Observer*.

These observations furnish the first records of rain-fall in the Adirondack region, extending over any considerable period of time. The most important result is, the indication given of the increase of rain-fall, with altitude, by comparison of the observations taken at four of the stations.

At Keene Valley, in Essex county, the rain-fall in 1881 was	30.63 inches.
At Edmonds ponds, 1,000 feet higher than Keene, during the same year the rain-fall was	46.07 inches.
A difference of	15.44 inches.

In Clinton county at Plattsburgh in 1881 the rain-fall was	21.59 inches.
At Clinton prison, 1,200 feet above Plattsburgh, during the same year the rain-fall was	50.81 inches.
A difference of	29.22 inches.

The frequency of storms in the vicinity of Lyon mountain may account for this greatly increased rain-fall. It is more than would be expected, ordinarily, for the difference of elevation.

The records, however, enable us to make one comparison, which is startling, even, if not conclusive.

Records of rain-fall at Plattsburgh academy, taken under the direction of the Regents, afford the data given in the next table. Admitting that the periodical fluctuations of the rain-fall may reach a difference of two or three inches between different years, how is the great change indicated by the old, and the recent observations at Plattsburgh to be accounted for.

Comparing three years from each series of observations we have—

YEARS.	Rain-fall, inches.	YEARS.	Rain-fall, inches.
1847	47.26	1881	21.59
1848	32.00	1882	25.28
1849	35.02	1883	24.05
Mean	38.09	Mean	23.64 inches.

Here, we find a decrease in the rain-fall in thirty-four years of 14.45 inches. It is to be remarked that during this interval a great portion of the forest in Clinton and the adjacent counties, has been cut away and removed.

Yet, we cannot assert, positively, upon this information, that the average rain-fall of northern New York has decreased, although the comparison just made is striking and suggestive.

The rain-fall observations herewith transmitted are placed in the report for record where they may be accessible for consultation. They tell the monthly and daily changes in precipitation that have occurred, and are the only recent contributions to this subject from the Adirondack region.

Early rain-fall records at PLATTSBURGH, *Clinton Co., N. Y.*

YEAR.	January.	February.	March.	April.	May.	June.	July.	August.	Septemb'r.	October.	November.	December.	Total. Year.
1847.......	4.10	3.56	7.12	4.03	.70	7.19	3.75	2.76	6.25	3.57	2.13	2.04	47.26
1848.........	2.75	3.69	3.08	1.58	2.44	2.39	2.89	2.07	1.21	4.52	2.71	2.67	32.00
1849........	2.30	2.59	3.69	2.76	3.92	1.64	0.95	3.60	2.46	5.49	2.45	3.17	35.02

CONCLUSION.

The location of a great number of the disputed boundaries of the patents and grants, which include the State lands, has now been made. From the confusion of duplicate and triplicate systems of lines, the old and original boundaries have been rediscovered, proved and permanently marked. A great mass of detail work ought yet to be done, but the means at command have only been sufficient, to deal with the pressing questions of disputed limits. These have been settled. Hereafter, these lines will become the reference bases in the surveys, not only of public but of private lands.

The field work has been extremely difficult and toilsome. The researches have not been in the line of new and direct work, but have involved a great extent of technical study, and the collection of historical evidence in logical legal form, to prove the boundaries that were rediscovered.

The scattered condition of the lands, within which the operations of the survey have been carried on, have made the area enormous. The great forest region of northern New York is imperial in size. Within its limits the entire State of Connecticut might be included, and an ample margin of woodland remain.

The vast forests, which were all once the property of the State, after the revolution, were to a great extent, disposed of at small prices. It was believed that they would yield more revenue to the State through taxes, than could accrue through their retention as a public domain. This theory, carried to the utmost in regard to forest lands has favored speculation, and has been really of vast detriment to the public interests. Forest lands, under the old and prevailing system of lumbering in this country, can yield but one profitable crop of timber in a generation. Hence, the practice has been to allow the lands to lapse to the State for unpaid taxes, after the best or soft-wood timber has been cut. When the second growth became of value, the same lands were often again purchased from the State for accrued taxes; and thus ownerships changed, reckless cutting went on, the original landmarks were neglected and forgotten, and boundaries became obliterated.

The neglect, mismanagement and complications of a century were thus handed down to us. The manner in which many of these problems have been solved and settled has been already explained.

Had it not been for the work of the Adirondack Survey, and the study of the ancient land lines made in preceding years, the present work could not have been executed with the success, rapidity and dispatch which has characterized it.

The work of the Adirondack Survey, after the completion of the base-lines at Lake George in 1883, was limited to the arrangement of data and the supervision of the office and map work that had been already commenced. The limited appropriation for that survey was exhausted in carrying out the work over wild districts, where the greatest difficulty was experienced on account of the density of the forest, impeding the view and hindering alike the triangulation and plane table work.

The appropriations made for these surveys have been altogether too limited for the work proposed to be done. In order to have sufficient means to carry out the requirements of the law, it became necessary for the Superintendent to carry on the work of both the Adirondack and State Land surveys without compensation therefor, the whole amount of his salary for the season of 1883 and 1884 having been expended upon the work of those surveys.

The responsibilities and cares connected with the location of these disputed boundaries, extending through ten counties, and affecting the ownership of vast areas of adjacent property, have been very great. The intricacy of the problems involved has made the preparation of the present report within the limited time required, a labor of remarkable difficulty.

Such other and further results as may be reached, and which it may be proper to present to the Legislature, will be transmitted in a future report.

The accounts of expenditures, together with vouchers and detailed bills of items therefor, in accordance with the law, have been filed with the Comptroller. An abstract of these accounts is hereto annexed.

A list of the State lands, giving their location and area, is also appended, together with maps of the lands and plates to illustrate this report; all of which is

Respectfully submitted.

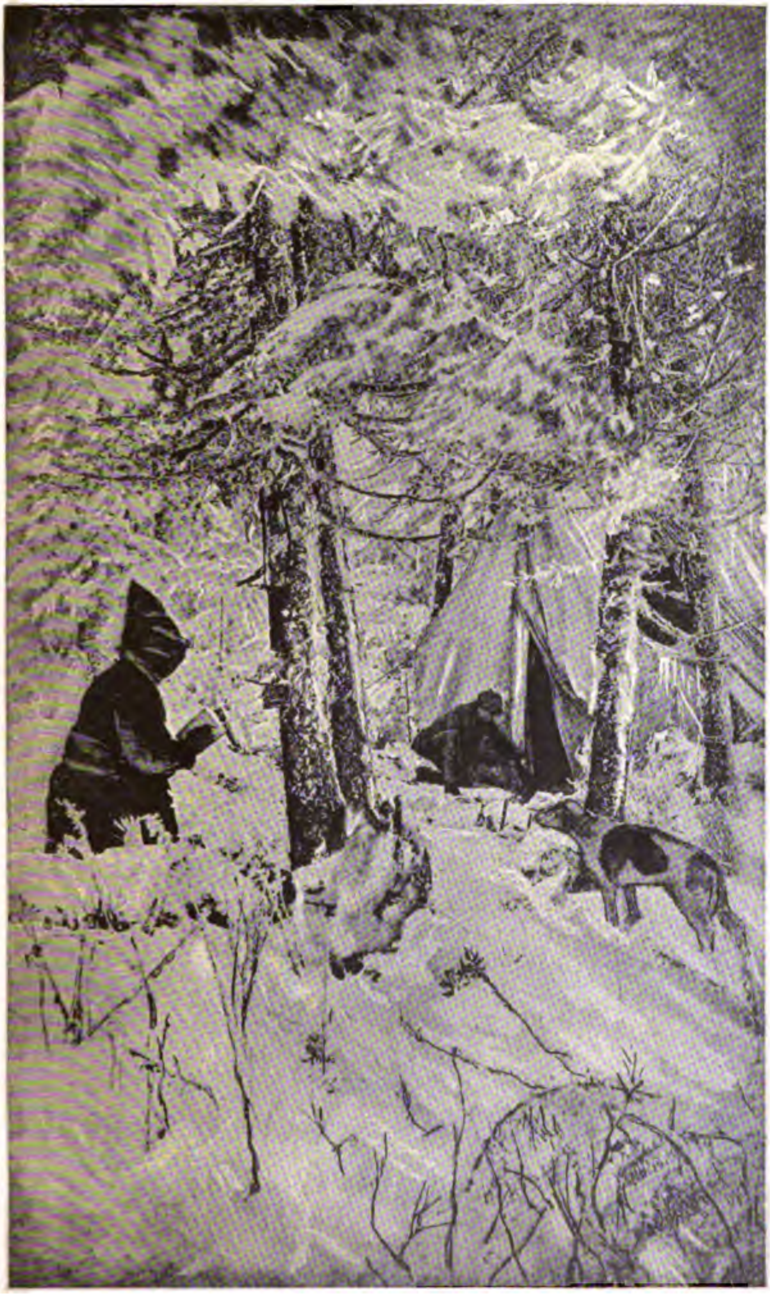
VERPLANCK COLVIN,

Superintendent.

NEW YORK STATE LAND SURVEY.

VERPLANCK COLVIN,

PLATE No 13 *Superintendent.* REPORT 1884



Moss Eng. Co., N.Y. Weed, Parsons & Co., Printers Albany N.Y.

CAMP IN THE SNOW.

WINTER ON THE MOUNTAIN PEAK, OCTOBER, 1883. TAKING MORNING OBSERVATIONS

LIST OF PLATES

ACCOMPANYING THE REPORT ON STATE LAND SURVEY.

Signal St. Lawrence.

Plate.

No. 1. Station connecting triangulation with the River St. Lawrence and the Boundary Line between the United States and Canada. See page 16.

Survey Party.

No. 2. Survey party engaged on location of County line between Herkimer and Oneida counties, moving from camp on the Banks of Moose River. See pages 14 and 110.

Shore of Raquette Lake.

No. 3. View from Steamboat landing at Kenwills, showing character of lands recently sold by the State. See page 28.

Indian Village of St. Regis.

No. 4. Mouth of the St. Regis River; showing its junction with the St. Lawrence. See page 15.

Indian Church at St. Regis.

No. 5. And the banks of the St. Lawrence, near the monument at the termination of survey lines, measured from the Hudson. See page 16.

Group of Indians at St. Regis.

No. 6. Remnant of the Iroquois or Six Nations who occupy what is known as the St. Regis Reservation. See pages 16 and 17.

Signal Mt. Azure.

No. 7. Station on the lower St. Regis; Solar Transit mounted on high tripod. See page 18.

Chateaugay Lake.

PLATE.

No. 8. View south-westward toward Thomas' point from landing at Ralph's; the county line lying between the distant mountains on opposite lake shore. See page 22.

Ragged Lake.

No. 9. View from Transit-station southward along east shore, showing character of the forest. See page 23.

Lyon Mountain Iron-mines.

No. 10. View northward toward Ellenburgh; Panther mountain; Ellenburgh mountain. See page 25.

Hohen-rauch.

No. 11. Smoky atmosphere in winter, the dust-haze of the Germans — the great impediment to long sights in Triangulation. See page 163.

Cloud Frost.

No. 12. Signal on mountain peak, encrusted by frost deposited by clouds, Oct. 29th, 1883. See page 162.

Camp in the Snow.

No. 13. Winter on the mountain peak, October, 1883; taking the morning observations. See page 162.

Crayon Sketches.

No. 14. High Adirondack peaks and wild forest, from Basin mountain.

No. 15. View of Chateaugay Lake, showing character of lands in Township No. 5 Old Military Tract.

No. 16. High peaks of the Adirondacks from Boreas river, near La Bier's place.

No. 17. High peaks of the Adirondacks from North Elba, Essex County.

No. 18. View from Mount Hurricane.

LIST OF MAPS.

(1) Map showing the location of the Great Land Patents.

(2) Map showing original location of the boundaries of Township No. 27 in Gt. Tract No. 1, Macomb's Purchase.

(3) Map showing the location of the southeast corner of Franklin County and the Preston Ponds.

(4) Map showing the boundaries of Township No. 5 in Clinton County (Lyon, Mt. Chateaugay and Chazy Lakes).

(5) Map of the north boundary of the Jerseyfield Patent (Hamilton, Herkimer and Fulton Counties).

(6) Map showing position of the corners of Jerseyfield and Lawrence Patents, Benson Township and Glen, Bleeker and Lansing Purchase.

(7) Map of the west boundary of Township No. 3, Totten and Crossfield's Purchase, showing part of the Moose River Tract and West Canada Lakes.

(8) Map of part of Palmer's Purchase, Hamilton County.

APPENDIX A.

SUMMARY GIVING

THE LOCATION AND AREA OF STATE LANDS IN 1884.*

Clinton county	42,019	acres.
Essex county	158,937	"
Franklin county	160,121	"
Fulton county	18,035	"
Hamilton county	251,972	"
Herkimer county	21,412	"
Lewis county	6,767	"
Saratoga county	13,613	"
St. Lawrence county	43,241	"
Warren county	30,683	"
Total in these ten counties	746,800	acres.

---

* The acreage as given in the summary has been reduced somewhat by the redemption of certain tax lands, as shown in the detailed statement by counties given hereafter.

APPENDIX B.

LIST OF STATE LANDS

ACQUIRED PRIOR TO 1881.

CLINTON COUNTY.

LIST OF LANDS BELONGING TO THE STATE.

Total number of acres 31,260.42; of which 10,724.75 acres are prison lands.

DETAILED STATEMENT.

Duerville Patent.

Town and lot.	Area in acres.
Dannemora:	
1. Ex. 47 a. N. W. Cor., 90 a. N. E. Cor, $21\frac{77}{100}$ a. S. W. Cor., 27 a. being so much of 74 a. b'd N. by lot line and Nelson's 105 a. N. E. Cor. of lot, E. by said Nelson, and another, S. by M. Nana and W. by lot line, as is not heretofore excepted	$64\frac{23}{100}$
S. E. Cor.	43
2. Ex. 155 a. W, side, $55\frac{3}{4}$ b'd N. by Rand Hill Road, E. by line par'l to and 18 r. E. of W. line of this parcel, S. by lot line and W. by 155 a. W. side of lot, and 26 a. b'd N. by lot line, E. by Parks. S. by Highway and W. by Shaw.	$63\frac{1}{4}$ a
S. E. P't.	91 a
7. All in Dannemora.	46 a
Beekmantown:	
29. W. $\frac{1}{2}$, ex $35\frac{5}{8}$ a. N. P't and 45 a. S. W. Cor. thereof.	$44\frac{3}{8}$
35. S. W. Cor., in Beekmantown	65

Town and lot.	Area in acres.
Altona:	
45. N. W. Cor	59
Beekmantown:	
52. S. W. ¼	62½
82. Ex. 15 a. N. W. Cor., 37 a. S. E. Cor., 51 a. S. W. Cor. and 67$\frac{3}{10}$ a being so much of 72½ a. N. E. Cor, as is contained in E. ½	79$\frac{7}{10}$
Altona:	
97.	250
118. Ex. 72 a. W. side	178
120.	250
I21.	250
122. N. ½ and S. E. ¼	187½
135. N. W. Cor	48

GORES.

LIVINGSTON'S GORE.

Town and lot.	Area in acres.
Saranac:	
30. Ex. 32$\frac{3}{100}$ a. E. Pt. 7 c. 37 l. wide on N., and 7 c. 15 l. on S. line, and 135 a. W. Pt.	39$\frac{17}{100}$
61. S. E. cor.	37
62. E. Side	62½

REFUGEE GORE,

South of Duerville Patent.

Town and lot.	Area in acres.
Plattsburg:	
6. All in Plattsburgh	139

STATE GORE,

between Old Military and Refugee Tracts.

Town and lot.	Area in acres.
Altona:	
22. Ex. 10$\frac{44}{100}$ a, a. gore on S. line, and und. ½ of rem. paid by J. C. Hubbell,	69$\frac{71}{100}$
43. On W. line, 3 c. 33 l. N. from S. W. Cor., 15 c. 25 l. long N. and S. and 10 c. 50 l. wide E. and W. Bought for prison purposes Apr. 28, '69.	16
44.	200
45.	200
46. B'd beg. 1 r. E. of W. line S. 14 c. 67 l. from N. W. Cor. of lot, th. S. 87°. E. 21 c. 14 l. th. S. 3°. W. 13 c. 65 l. to a. brown ash tree, marked, th. S. 86°. W. 1 c. 40 l. to a balsam tree, marked, th. N. 47°. W. 4 c. 4 l. to a birch tree,	

State Gore — continued.

Town and lot.	Area in acres.
marked, th. N. 4°. W. 97 c. to a stake in S. line of 10 a. Mill lot. th. N. 87°. W. 16 c. 52. l. to a stake and stones 95 l. N. of the large bolt in centre of bridge crossing the river on W. line of lot 46 and th. N. on lot line to beg. Bought for prison purposes July 25, '69.	$23\frac{1}{6}$
46. B'd beg. on E. line of lot at S. E. Cor. of land conveyed to Samuel Shaw by G. M. Beckwith and Henry S. Johnson, Ex. rs. 15 c. S. of N. E. Cor. of lot, th. W'ly along the S. line of said land 13 c. 86 l. to N. E. Cor of 10 a. mill lot, th. S'ly along E. line of said Mill lot and a part of said lot sold to Mr. Jarvis, about 15 c. 67 l. to S.E. lot Cor. of said Jarvis' land, th. W'ly along said Jarvis land about 21 c. to W. line of lot, th. S'ly along lot line 9 c. 10 l. to a stake at N. W. Cor. of 40 a. S. side of lot 46, th. E'ly along N. line of said 40 a. to E. line of lot and th. N'ly along said E. line to beg. Bought for prison purposes Aug. 10, '69.	$49\frac{2}{10}$
47.	200
48.	200
50. All in Altona	49
Dannemora:	
50. All in Dannemora	144
Altona:	
51. All in Altona	60
Dannemora:	
51. All in Dannemora	144
53.	200
54.	200
55. Ex. 15 a. sold to M. St. German, 185 a. Bo't for prison purposes Sep. 4, '68	200
56.	200
57.	200
58. Bought for prison purposes Sep. 13, '66	154
59. Bought for prison purposes Sep. 13, '66	200
60.	200
61.	175
62.	176
63.	176
64.	152
65. Ex. und. ½ paid by J. M. Davison	150

OLD MILITARY TRACT.

Township 3.

Town and lot.		Area in acres.
Black Brook:		
7.		967
10.	Ex. 189 a. N. W. Cor. square	664
15.		1066
17.	Sub. 3	85
17.	Sub. 8	85
17.	Sub. 9	85
18.	Ex. 80 a. S. E. Cor	773
27.		853
33.	Ex Subs. 1, 2 and 3, (being all N. and W. of Sampson Pond) 460 a. and S. E. Cor., 50 a.	343
41.	N. ½	426
72.	S. E. Cor	10
73.	Ex. und. ½ paid by Jno. Taylor Cooper	237½
74.	Ex. 100 a. N. W	753

Township 4.

Saranac:		
1.	All in Saranac	114
7.	S. W. Cor	190
Black Brook:		
9.	Sub. 7	85
Saranac:		
15.	S. P't, 354 a. ex. 106 ⅔ a. W. end of S. ½ and 53 ⅓ a. S. ½ of 106 ⅔ a. E. end of S. ½	194
32.	B'd N. by Highway, E. by Tromblay and W. by Gokey	99
62.	Ex. 50 a. S. E. Cor., 50 a. S. W. Cor. and 400 a. on N. line adj. 50 a. N. E	140
Black Brook:		
89.	W. end of 140 a. N. P't	70
90.	Sub. 2	160
91.	B'd. N. by Highway, E. by lot line, S. by J. P. Sayers, or J. B. Sayers, or J. B. Hayrs or S. B. Sayrs and W. by J. Healey or J. Haley	74
91.	S. E. Cor	71

Township 5.

Ellenburgh:		
43.	S. W. Cor	50
72.		213
105.	S. E. Cor	71⅓

Township 5, *O. M. T. — continued.*

Town and lot.			Area in acres.
123.	Bought for prison purposes	July 27, '68	213
124.	do	do	213
125.	do	do	213
126.	do	do	213
129.	do	do	213
130.	do	do	213
160.	....		213⅛
161.	....		213⅛
171.	Bought for prison purposes	July 27, '68.	213⅛
172.	do	do	213⅛
174.	do	do	213⅛
175.	do	do	213⅛
176.	do	do	213⅛
178.	do	do	213⅛
179.	do	do	213⅛
Dannemora and Ellenburgh:			
181.	Bought for prison purposes	July 27, '68........	213⅛
182.	do	do	213⅛
183.	do	do	213⅛
184.	do	do	213⅛
185.	do	do	213⅛
186.	do	do	213⅛
187.	do	do	213⅛
188.	do	do	213⅛
189.	do	do	213⅛
190.	do	do	213⅛
Dannemora:			
231.	Bought for prison purposes	July 27, '68	213⅛
232.	do	do	213⅛
233.	do	do	213⅛
234.	do	do	213⅛
235.	do	do	213⅛
236.	do	do	213⅛
237.	do	do	213⅛
238.	do	do	213⅛
239.	do	do	213⅛
240.	do	do	213⅛
241.	do	do	213⅛
242.	do	do	213⅛
243.	do	May 13, '67.......	213⅛
244.	do	July 27, '68.......	213⅛
245.	do	do	213⅛
246.	Ex. 10 a. b'd N. by lot 236, and W. by Chazy Lake, and extending E. and S. far enough to make 10 a. in a square form. Bought for prison purposes May 13, '67............. ..		203

Township 5, *O. M. T.* — *continued.*

Town and lot.	Area in acres.	
247. Bought for prison purposes, July 27, '68	213⅓	
248. do do	213⅓	
249. do do	213⅓	
291. do do	213⅓	
292. do do	213⅓	
293. do do	213⅓	
294. do do	213⅓	
295. do do	213⅓	
296. do do	213⅓	
297. do do	213⅓	
298. do do	213⅓	
299. do do	213⅓	
300. do do	213⅓	

Township 6.

Town and lot.	Area in acres.	
Ellenburgh:		
15. N. E. Cor.	26	
Clinton:		
32. N. P't of E. ½	200	
37. Sub's. 1 and 3	$110\frac{29}{100}$	
Ellenburgh:		
39. N. end	140	
59. W. side	208	1
59. N. end of 54 a. E. P't of 262 a. W. side	$37\frac{26}{262}$	
Clinton:		
61. What remains of 351 a. N. E. cor. 320. r. N. and S. and 175½r. E. and W. after. ex. so much thereof as is contained in 286 a. E. P't of lot	65	
73. Sub. 7	60	
79. Ex. 78 a. S. E. cor	562	
85. N. E. cor., 380 r. long. N. and S. 98 r. wide E. and W	232	
85. On S. line 132 r. E. from S. W. cor., 195 r. long N. and S. and 45 r. wide E. and W	50	

Plattsburgh Old Patent.

Town and lot.	Area in acres.
Plattsburgh:	
66. S. E. ¼	100

Platt's 6,600 *a. Patent.*

Town and lot.	Area in acres.
Schuyler Falls:	
5. N. ½	110

Refugee Tract.

333⅓ *a. Lots.*

Town and lot.	Area in acres.
Saranac:	
10. In Saranac, adj. 111 a. W. end	36

Refugee Tract — continued.

Town and lot.	Area in acres.
Plattsburgh:	
10. E. P't in Plattsburgh	177
16. N. E. cor	50
420 a. Lots.	
Chazy:	
7. S. E. cor	45
Altona:	
57.	420
83. Small lot this the whole	290
84.	420
108.	420
109.	420
Mooers:	
149. S. P't	156
176. S. E. cor	48
Altona:	
190. Ex. $96\frac{62}{100}$ a. N. E. cor. b'd N. 23 c. by lot line, W. by line running S. 10° 31′ W. 41 c. 41 l. to turnpike, S. by line running S. 76° E. 12 c. 94 l. and S. 72° 45′ E. 10 c. 13 l. to lot line and E. by lot line, $65\frac{15}{100}$ a. S. E. cor. b'd N. by turnpike and W. by Vincent's land; 40 a. b'd N. 12 c. 17 l. by turnpike, E. by Vincent's land, S. by lot line and W. by line par'l to E. line, and ex. 118 a. N. W. Cor	$100\frac{23}{100}$
Mooers:	
195. W. ½	210
197. W. ½ of S. W. ¼	52½
197. B'd N. by P. Stafford, E. by W. Brisben, S. by J. Tallman and W. by E. White	52½
203. E. P't, b'd W. by Keillis	100
204. S. E. cor	12
210. N. W. ¼ and W. ½ of S. W. ¼	157
Altona:	
223. N. P't of S. E. ¼	51
225. All in Altona	225
Dannemora:	
225. All in Dannemora	195
229. S. E. cor., 33 a. and S. W. cor. 33 a.	66
Plattsburgh:	
241. Ex. 57½ a. E. ½ of S. E. ¼	367½
Plattsburgh and Schuyler Falls:	
250. E. P't of W. ½	83
Plattsburgh:	
252. Sub. 8	11½
252. Sub. 9	12¾

ESSEX COUNTY.

LIST OF LANDS BELONGING TO THE STATE.

Total number of acres 133,447.91

DETAILED STATEMENT.

ESSEX TRACT.

Henry's Survey.

Town and lot.		Area in acres.
Keene:		
128.	N. P't Taylor mill lot.	1
228.		102
231.		200

Gore between Thurman's Road Patent and Hoffman Township.

Town and lot.		Area in acres.
Schroon:		
3.		92

Hoffman Township.

Town and lot.		Area in acres.
A.		200
B.		200
D.	E. P't, in Schroon, 100 a. ex. 50 a. being so much of 55 a. N. P't of lot as is contained therein,	50
E.	E. P't, in Schroon	50
Minerva:		
E.	W. P't, in Minerva	150
Schroon:		
F.		250
1.	S. W. ¼	62½
5.	Ex. und. ½ paid by Finch, Pruyn & Co	125
6.		250
7.		250
8.		250
9.	S. W. cor., 89 a. ex. 79 a. S. W. cor. thereof	10
14.		250
15.	N. W. ¼	62½

Town and lot.	Area in acres.
16. Ex. S. E. ¼	185
18.	250
20.	250
28. S. ½	125
29.	250
43.	250
66. W. P't	90
74. W. ½ and 75 a. N. P't of E. ½	200
75.	250
Minerva:	
94. Ex. 90 a. W. P't and 125 a. S. E. cor. b'd W. by 90 a. W. P't of lot	35

Iron Ore Tract.

Elizaoethtown:	
142.	63
213. N. end	140

Jay Tract

Wilmington:	
5. E. or E'ly Pt	118
6.	300
25.	200
32. Ex. 200 a. N. P't	150
51. N. end	140

Maul's Patent.

Chesterfield:	
30. All in Chesterfield	75
45. Same	100
46. Same	100
47. Same	75
50. N. ½	100
56.	200

Morgan's (Jonas) Patent of 4,800 *a.*

Westport:	
16. Bonded when sold to State	100

North River Head Tract.

North Hudson:	
13.	160
14.	160
22.	160
23.	160
46.	160
Elizabethtown:	
83. N. ½, in Elizabethtown	80
84. Same	80

North River Head Tract — continued.

Town and lot.	Area in acres.
North Hudson:	
84. S. ½, in North Hudson	80
Elizabethtown:	
98. Ex. N. W. ¼	120
103.	160
104.	160
110.	160
126.	160
128 and 129. Being the bed of the Boquet river, and land b'd beg. 3 f't E'ly from a black cherry tree in the highway fence nearly opposite the dwelling-house of Elisha Holcomb, th. N. 11° E.3 r. and 17 l. to E. bank of said river, th. down said river on its E. bank N. 65° 30′ E. 20 r. to the top of the lower falls, th. continuing on said E. bank N. 50° E. 42 r. to S. line of lot 2 Roaring Brook tract, th. W. on said S. line 17 r. and 15 l., th. S. 50° W. 29 r., th. S. 65° 30′ W. 12 r., th. N. 73° W. 16 r., th. 17° W. 12 r. to a point 4 r. up stream (on E. bank of said river) from the top of the upper or Split Rock Forge Falls, th. S. 50° E. 16 r. to a large rock near the west wheel track of the State road and th. 85° E. 10 r. to beg.	6

OLD MILITARY TRACT.

Township 1, *Thorn's Survey.*

Elizabethtown:	
16. S. W. ¼	40
Lewis:	
44. Bonded October 18, 1847	160
50. Ex. und. ¾ paid by Albany and Rensselaer Iron & Steel Co	38½
Elizabethtown:	
55. W. ⅔, in Elizabethtown	106
79.	160
81.	160
Keene:	
88.	160
115.	102

Townships 1 *and* 2, *Richard's Survey.*

Wilmington:	
13.	64
14. N. W. cor	57
15.	315
50. N. P't, in Wilmington	187

Township 1, *etc. — continued.*

Town and lot.	Area in acres.
51. All in Wilmington	205
52. N. P't, in Wilmington	254
54. Ex. E. ⅓ of W. ½	835
56.	382
Keene:	
65.	700
69.	760
93.	350

Township 11.

Town and lot.	Area in acres.
St. Armand:	
1.	120
6.	160
North Elba:	
15.	160
20.	160
St. Armand:	
22.	160
26.	160
28. Ex. 110 a. N. W. cor	50
North Elba:	
34.	160
35.	160
38.	160
39.	160
40.	160
St. Armand:	
41. W. P't	103
42.	160
43.	160
45. S. W. ¼	40
50.	160
North Elba:	
55. N. ½	80
58.	160
59.	160
60.	160
St. Armand:	
69.	160
70. Ex. S. W. ¼	120
71.	160
North Elba:	
72.	160
73.	160

Township 11, *O. M. T. — continued.*

Town and lot.	Area in acres.
74.	160
77.	160
78. Ex. S. W. ¼	120
79.	160
80.	160
81.	160
St. Armand:	
86. S. P't	120
88.	160
90.	160
91.	160
North Elba:	
93.	160
98. Ex. N. W. ¼	120
99.	160
100.	160
St. Armand:	
107.	160
108.	160
109.	160
110.	160
North Elba:	
115. Ex. N. W. ¼	120
117.	200
118.	160
120.	160
St. Armand:	
122.	160
124.	160
125.	160
127.	160
128.	160
129.	160
130.	160
North Elba:	
133.	160
134.	160
135.	160
136. Ex. N. W. ¼	90
137. N. W. ¼	50
139. Ex. N. E. ¼ and S. W. ¼	80
140.	160

Township 11, *O. M. T.* — *continued.*

Town and lot.	Area in acres.
St. Armand :	
144.	160
145.	160
146.	160
147.	160
148.	160
149.	160
150.	160
North Elba :	
154.	160
155.	160
156. N. W. cor.	70
157.	200
159. N. ½	80
160. Ex. S. E. ¼	120
St. Armand :	
164.	200
165.	200
166.	200
167.	200
168.	200
169. Ex. S. E. ¼	150
North Elba :	
174. Ex. 70 a. N. W. cor	90
175. Ex. N. E. ¼	120
176.	120
178.	200
179.	130
180. Ex. S. E. ¼	120
St. Armand :	
181. W. side	100
182.	300
184.	300
185. Ex. N. E. ¼	225
186.	300
187.	160
188.	160
North Elba :	
193.	160
195.	160
196. Ex. S. W. ¼	90
197.	200
198. Ex. S. W. ¼ and und. ⅜ of S. E. ¼ paid by Amanda Lyon	113¾
199. Ex. N. W. ¼	150
200.	160

Township 11, *O. M. T. — continued.*

Town and lot.	Area in acres.
St. Armand:	
203.	160
204.	160
205.	160
206.	160
207.	160
208.	160
209.	160
211.	160
North Elba:	
213.	160
215.	160
218. Ex. und. ⅔ of N. E. ¼ and und. ⅔ of S. W. ¼, paid by O. Able, Jr.	106⅔
St. Armand:	
223.	160
224. Ex. N. E. ¼	120
225.	160
226.	160
227.	160
228.	160
230.	160
231.	160
North Elba:	
232.	160
233.	160
234. Ex. S. E. ¼	120
St. Armand:	
241.	120
242.	160
243.	160
244.	160
245.	160
246.	160
247.	160
248.	160
249.	160
250.	160
251.	160
North Elba:	
252.	160
253. N. E. ¼	40
St. Armand:	
262.	160
263.	160

Township 11, *O. M. T. — continued.*

Town and lot.	Area in acres.
264. Ex. S. E. ¼	120
265.	160
266.	160
267.	160
269. Ex. 100 a. N. W. cor.	60
270.	160
271.	160
North Elba:	
275.	160
St. Armand:	
282.	160
283.	160
284.	160
285.	160
286.	160
287.	160
288.	160
289.	160
290.	160
291.	160
303.	120
304.	120
305.	120
306.	120
307.	120
308.	120
309.	120
310.	120
North Elba:	
317.	200
318.	160
St. Armand:	
321.	120
322.	160
323.	160
325. Ex. N. E. ¼	120
326.	160
327.	160
328.	160
329.	160
330.	160
North Elba:	
333.	40
337. Ex. N. E. ¼	150
338.	160

Township 11, *O. M. T.* — *continued.*

Town and lot.	Area in acres.
St. Armand:	
347.	160
350.	160
North Elba:	
354.	160
355.	160
357.	200
358.	160
359. S. E. ¼	40
360. N. ½	80

TOWNSHIP 12.

Richards' Survey.

Town and lot.	Area in acres.
1. Sub. 3.	155.$\frac{4}{11}$
2. Sub. 3.	160
3.	1440
4.	835
5.	620
6. N. ½.	720
7. Sub. 1.	160
7. Sub. 2.	160
10. Sub. 1.	187
10. Sub. 2.	152
13.	620
17. Sub. 2.	155
17. Sub. 3. N. E. ¼.	38¾
22. Ex. 700 a. S. P't.	740
23. Sub. 1	160
23. Sub. 2. Ex. S. E. ¼.	120
23. Sub. 3	188
23. Sub. 4	188
24. Sub. 1 N. E. ¼ and S. W. ¼.	83½
24. Sub. 2	167
24. Sub. 3	150
24. Sub. 4, N. W. ¼.	37½
30.	1440
31.	640
32 S. ½	320
33. Ex. N. E. ¼ of N. E. ¼ and N. E. ¼ of S. E. ¼	560
34.	640
35	1440
37.	861
38.	1449
39.	640
40.	614
41.	539
43.	1278

Township 12, *O. M. T.* — *continued.*

Thorn's Survey.

Town and lot.	Area in acres.
1. Ex. S. E. ¼	120
2.	160
3.	160
4. Ex. S. E. ¼	120
5. Same	120
6. Same	120
7.	160
8.	160
9.	160
10.	160
11. N. W. ¼ and S. E. ¼	80
12.	160
14.	160
15. Ex. N. W. ¼	120
16.	160
17.	160
18.	160
19.	160
20.	160
21. Ex. N. E. ¼	120
22. N. ½	80
23. N. W. ¼ and S. E. ¼	80
24. Ex. S. E. ¼	120
25.	160
26.	160
27.	160
28. Ex. N. E. ¼	120
29.	160
30.	160
31. S. ½	80
32.	160
33.	160
34.	160
35. Ex. N. W. ¼	120
36.	160
37.	160
40.	160
41.	160
42. Ex. N. W. ¼	120
43.	160
47.	160
48. N. E. ¼	40
49. Ex. S. W. ¼	120
50.	160
53.	160
54. Ex. S. E. ¼	120

Township 12, *O. M. T.* — *continued.*

Town and lot.		Area in acres.
56.	S. W. ¼	40
57.		160
59.	N. ½	80
60.	N. W. ¼	40
61.		160
62.	Ex. S. E. ¼	120
63.	Ex. N. W. ¼	120
64.		160
65.		160
67.	Ex. N. W. ¼	120
69.	Ex. S. W. ¼	120
70.		160
83.	Ex. S. W. ¼	120
84.	Same	120
90.		160
91.		160
96.		160
98.		160
101.	Starch mill, b'd beg. in the west branch of the Ausable River 30 ft. below Fenout & Thompson's saw-mill, th. N. E'ly 40 ft. to a large rock, th. S. E'ly 60 ft., th. S. W'ly 40 ft. and th. N. W'ly 60 ft. to beg.	ft. 2400
		acres.
115.	N. E. ¼	40
121.	Ex. N. W. ¼	120
123.		160
126.		160
129.		160
130.		160
131.		160
132.	Ex. S. E. ¼	120
134.	N. W. ¼ and S. E. ¼	80
135.		160
136.		160
137.	Ex. N. E. ¼	120
138.	N. E. ¼ and S. W. ¼	80
139.	W. end of N. ½	20
141.	Ex. S. E. ¼	120
142.	W. ½	80
146.	N. ½ and S. E. ¼	120
147.		160
148.	Ex. S. W. ¼	120
149.		160
153.		160
154.		160

PARADOX TRACT.

Town and lot.	Area in acres.
Ticonderoga:	
24.	100
39.	100
Schroon:	
85. Ex. und. ½ paid by Roth	80
88. Ex. 25 a. N. W. cor	135
89.	160
95.	160
135.	200
North Hudson:	
172. Ex. und. ½ assessed to Crown Point Iron Co.	80
174.	160
184.	160
185.	160
217.	160
224.	160
230.	160
239. N. P't.	53
239. Ex. und. ⅔ assessed in 1868 to Crown Point Iron Co., and in 1870 to Jas. E. Pond	54
Moriah:	
292.	160
293. Ex. 80 a. N. W. cor	80
294.	160
295. W. side 110 a., ex. und. ⅔ thereof Adirondack Co.'s land	36⅔
314.	160
315.	160
North Hudson:	
350.	160
353.	160
354.	100
358. N. side	70
402. N. W. cor., square	70
Moriah:	
412.	160
North Hudson:	
413.	160
427. N. W. cor	49

PERU BAY TRACT.

Chesterfield:	
113.	$459\frac{7}{10}$

ROARING BROOK TRACT.

Town and lot.	Area in acres.
Elizabethtown:	
2.	243
5. E. P't in Elizabethtown	100
Keene:	
5. W. P't in Keene	150
11.	240
12.	240
14.	240
15.	240
Elizabethtown:	
16. E. P't in Elizabethtown	100
Keene:	
16. W. P't in Keene	150
Elizabethtown:	
26.	300
28. E. P't in Elizabethtown	100
Keene:	
28. W. P't in Keene	160
29.	300
30.	300
31.	160
32.	160
39.	300
41.	160
Elizabethtown:	
42. E. P't in Elizabethtown	100
Keene:	
42. W. P't in Keene	150
Elizabethtown:	
48. E. ⅓ or E. P't in Elizabethtown	150
Keene:	
48. W. ⅓	150
50.	300
51.	300
52.	160
57. Ex. und. ⅓ paid by O. Abel, Jr. and und. ⅓ paid by Henry Glidden	100
58. Same	100
59. Same	100
65. W. P't or W. ⅓ in Keene	150
66. Ex. und ⅓ paid by O. Abel, Jr. and und. ⅓ paid by Henry Glidden	100

SOUTH TRACT.

Stower's Survey.

Town and lot.	Area in acres.
Lewis:	
12. E. end	22
27.	235
31.	244
Jay:	
33.	160

Stoughton's Patent.

Ticonderoga:	
35.	¼
36.	¼
37.	¼
38.	¼
39.	¼
66.	¼

TOTTEN AND CROSSFIELD'S PURCHASE.

Township 14.

N. ½ and S. E. ¼.

Minerva:	
9.	220
10. S. ½	110
11.	160
12.	240
14.	160
20. All in Essex Co	131
29. Same.	80
30. N. E. ¼	40
32.	160
33.	160
34. W. ½	80
38.	160
40.	160
41. S. P't.	15
42. E. P't	140
57. E. ½	80
58.	160
59.	160
75. S. E. P't 56 a. and W. P't 106 a. ex. 56 a. being so much of 60 a. N. P't of lot as is contained therein	106
82.	160
86. All in Essex Co	100

Township 16.

Town and lot.	Area in acres
13.	1000
14.	1000
15.	1000
16. N. W. ¼	250
17. Same	250
20.	1000
22. Ex. 100 a. N. end and 100 a. S. end	800
23. Same	800
24. E. ½	500

Township 25, *Bailey's Patent.*

2. E. end	70
8.	98
9.	98
11.	100
15.	100
17.	100
37. W. ½	50
54. N. ½	50
74.	100
75.	100
79.	100

Dominick's Patent.

52. N. E. cor. 50 a. and S. W. cor. 50 a	100
53. N. ½	100
58. S. ½	100

Thorn's Survey.

1.	114
5.	136
15. Ex. 70 a. N. W. cor	90
23.	160
24.	160

Township 26.

18.	200
20.	200
21.	200
25.	192
26. W. P't	84
28.	160
29.	160
30. Ex. 100 a. N'ly end	100
35.	160

Township 26, etc. — continued.

Town and lot.		Area in acres.
43.		200
48.		240
52.	Ex. 33 a. N. E. cor., 15 c. wide N. and S. and 22 c. long E. and W.	167
53.	W. ½ ex. 21 a. N. W. cor., 15 c. long N. and S. and 14 c. wide E. and W.	79
57.		200
58.		200
62.		200
66.		200
67.		200
68.		200
74.		244
78.		244
81.		244
82.	S. ½	122
84.		266
89.	Ex. 80 a. on W'ly line 19 c. from S. W. cor., 20 c. wide N. and S. 40 c. long E. and W.	156
92.		236
93.		236
94.		236
98.		236
99.		236
101.		236
102.	Ex. 100 a. N. P't and 50 a. N. W. cor. of rem.	86
103.	N. end 50 a. and all of 43 a. S. E. cor. covered by 200 a. W. P't or 200 a. N. W. P't and is not covered by $6\frac{3}{10}$ a. S. E. cor., 21 c. long N. and S. and 3 c. wide E. and W. 34 a.	84
104.	E. P't 122 a. ex. 7 a. being so much thereof as is included in $41\frac{7}{10}$ a. S. W. cor. of lot 21 c. wide N. and S., 31 c. long on N. line and 8 c. on S. line, b'd E. by lake, and 2 a. S. E. cor. thereof, 5 c. on E. and 6 c. on S. line, b'd N. W. by lake	113
109.	Ex. 100 a. b'd beg. 11 c. S. of N. W. cor., th. N. 59° E. 42 c. to E'ly line of lot, th. S. 31° E. 24 c., th. S. 59° W. 42 c., across the lot to the W'ly line thereof and th. N. 31° W. 24 c. to beg.	136
114.	W. ½	118
117.	N. P't (Geo. W. Gilletts)	80
118.	N. P't, 30 a., S. P't, 126 a., and N. W. cor., square of 58 a. remaining after ex. 60 a. N. P't and 118 a. S. P't of lot, 15 a.	171

Township 27, Richard's Survey.

Town and lot.		Area in acres
Newcomb:		
6.		233
7.		250
14.		160
15.		160
21.		160
22.		160
23.		160
25.		160
26.		160
27.		160
28.		160
36.	N. E. cor	70
37.		250

Thorn's Survey.

16.		80
17.	Ex. 55 a. N. W. cor	25
18.		80
19.		80
23.		160
24.		160
33.		160
35.		160
36.		160
42.		160
43.		160
44.		160
45.		160
46.		160
47.		160
48.		160
49.		160
51.		160
52.		160
53.		160
54.		160
55.		160
56.		160
57.		160
58.		160
59.		160
61.		160
62.		160
63.		160
64.		160
65.		160

Township 27, etc. — continued.

Town and lot.	Area in acres.
66.	160
67.	160
68.	160
69.	160

Township 30.

Town and lot.	Area in acres.
Minerva:	
1. E. ½ and 200 a. N. P't and 100 a. S. P't of W. ½.	800
2.	1000
5.	1000
6. All in Minerva.	975
North Hudson:	
6.. All in North Hudson.	25
Minerva:	
7. All in Minerva	750
8. All in Minerva	400
9. All in Minerva	25
North Hudson:	
9. All in North Hudson.	975
10. Ex. 200 a. assessed to Dudley or David Durgin, b'd beg. at a hemlock stake standing S. 30° E. 50 c. from N. E. cor. of lot, th. S. 60° W. 40 c. to a cor. in the Dudley Pond, th. S. 30° E. 50 c. to a birch tree for a corner, th. N. 60° E. 40 c. to a spruce tree on E'ly line of lot and th. N. 30° W. 50 c. to beg.	800
11.	1000
12.	1000
13. Ex. 100 a. S. end or S. E. P't.	900
Minerva:	
15. All in Minerva	250
North Hudson:	
15. All in North Hudson.	650
Minerva:	
16. All in Minerva.	550
North Hudson:	
16. All in North Hudson.	425
17. All in North Hudson.	300
Minerva:	
18. All in Minerva.	700
North Hudson:	
18. All in North Hudson.	250

Township 30 — *continued.*

Town and lot.	Area in acres.
Minerva:	
19. All in Minerva	800
North Hudson:	
19. All in North Hudson	150
Minerva:	
20. All in Minerva	900
North Hudson:	
20. All in North Hudson	100
Minerva:	
21. All in Minerva	955
North Hudson:	
21. All in North Hudson	50
Minerva:	
22.	1000
23.	1000
24. Ex. 200 a. b'd N. by Van Dusen's Creek, E'ly and W'ly by lot lines and S'ly by line at right angles to E'ly and W'ly line	800

Township 50.

Newcomb:	
87.	160
92.	160
95.	160
96.	160
97.	160
98 and 99	173
103.	180
104.	180
105.	180
106.	180
108.	183
109.	160
110.	160
111.	236
112.	236
115 and 116	299
117.	236
118.	236
119.	236
120.	236
121.	160

Town and lot.	Area in acres.
TRACT WEST OF ROAD PATENT.	
North Hudson:	
4.	160
5.	160
10.	160
11.	160
27. Ex. und. ½ R. R. lands	80
28. Same	80
29. Same	80
35.	160
43.	160
47.	160
Schroon:	
65.	127
67.	160
113. Ex. und. ½ paid by R. Seaman	63
Minerva:	
168. All in Minerva	60
Schroon:	
168. E. P't in Schroon	60
178.	$\frac{53}{100}$
WHITE FACE MOUNTAIN TRACT.	
North Elba:	
1. Ex. und. ½ paid by Eliza A. Carter	749
2. All in North Elba, ex. und. ½ thereof paid by Eliza A. Carter	400
Wilmington:	
2. N. P't in Wilmington, ex. und. ½ thereof paid by Eliza A. Carter	241½
North Elba:	
5. All in North Elba, ex. und. ½ thereof paid by Eliza A. Carter	765½
Wilmington:	
5. N. P't in Wilmington, ex. und. ½ thereof paid by Eliza A. Carter	300

FRANKLIN COUNTY.

LIST OF LANDS BELONGING TO THE STATE.

Total number of acres, 150,179.176.

DETAILED STATEMENT.

GORE EAST OF TOWNSHIP 9, OLD MILITARY TRACT.

Town and lot.	Area in acres.
Bellmont:	
8.	160
28.	160

MACOMB'S PURCHASE, GREAT TRACT 1.

Township 8.

Brandon:	
22. S. ½ of S. E. ¼	25
45. B'd N. by land of A. Campbell, E. by Hinman and Harmon's land, S. by L. Brown's land and W. by lot line	15

Township 11.

2. Sub. 2	69

Township 12.

Duane:	
3. N. E. cor	100
4. Same	98
6. N. E. corner 142 a. and S. W. cor. 200	342
7. All E. of Highway, ex. 77 a. b'd N. and E. by land of J. B. or John Duane and S. by Harriet Duane's land and 41 a. b'd beg. at S. W. cor. of the Conley lot, th. E. 22 c., th. S. 17 c. 15 l. to S. line of lot, th. W. on lot line to middle of Malone Road, th. N. on said road to beg.	415
8.	556
10.	636

Townshiv 12 — *continued.*

Town and lot		Area in acres
13.		617
16.		640
17.		650
19.	N. of Turnpike, b'd N. and E. by G. W. or Mary Olmstead's land, S. by Port Kent and Hopkinton Turnpike and W. by G. W. McNeil's land..	20
19.	All S. of Turnpike, ex. 180 a. b'd beg. in the center of the Port Kent or Port Kent and Hopkinton Turnpike at a point 82°½ E. 11 c. 35 l. from the intersection of said road with the W. line of lot, th, S. 40 c. th. E. 43 c. to the W. bank of the outlet of Horse Shoe Pond, th. N. along said bank, as it winds and turns, to the center of said Port Kent or Port Kent and Hopkinton Turnpike, and th. W'ly along center of said Turnpike 55 c. to beg.	202
21.	Sub. 2	100
21.	Sub. 3	100
21.	Sub. 5, N. W. Cor.	62
21.	Sub. 6, W. ½	50
22.	Sub. 1	96
24.	Ex. 200 a. W. side	247
25.	Sub. 3	100
26.		679
29.	S. ½	328
30.	Ex. 50 a. N. E. cor. and 50 a, N. W. cor.	493
31.	E. centre P't b'd N. by land of J. Sheffield, E. by lot line, S. by land of S. Kempton and W. by Malone Road	40
31.	S. W. cor	175
33.		595
34.		685
35.	W. ½	338
36.	Ex. 100 a. S. W. cor. O. H. Booth, Poughkeepsie, N. Y.	584
37.		630
42.		641
43.	Ex. 76 a. N. E. cor. and 15 a. being so much of 91 a. more or less, N. E. P't, 37 c. 34 l. on N. 25 c. 37 l. on E. 35 c. 60 l. on S. and about 24 c. 57 l. on W. as is not contained in said 76 a.	552
46.		610
47.		652
48.	Ex. 100 a. N. W. Cor.	463
50.		483
54.		501
55.		443
56.		468

Township 14.

South ½ and North East ¼

Town and lot.	Area in acres.
Brandon :	
8. N. of ½ S. ½	40¼
11. Same	33
13. N. ¾	101¼
14. N. ⅔ of S. ¾	76
15. S ½	73
16. S. ⅔ of N. ⅗	70⅘
17. S. ⅔	82⅔
18. N. W. ¼ and S. ½ of S. E. ¼	97½
19.	169
20. N. ⅕ S. ⅕ and N. ⅓ of S. ⅗	106⅘
23. N. ¼	36
24. N. ¼ of E. ½ and N. ½ of S. W. ¼	72
25. Ex. N. ¼ and S. ¼	65½
27. N. ½ of S. ½	39
28. S. ⅕ and N. ⅓ of S. ⅗	68⅘
29. N. ⅓	40
34. S.⅖	78
35. Ex. N. ¼ and S. ¼	69½
38. S. ½ of N. ⅖	39⅖
41.	178
42. N. ⅖	69⅕
45. N. ½ of S. ½	41¾
46. N. ¼ and S. ½	123¾
47. Ex. N. ⅓ and S. ⅓	43
48. N. ⅔ of W. ½	78
51. N. ⅗ and S. ⅕	148
52. N. ⅗	109⅕
54. S. ½ of N. ⅖	37⅘
55. N. ⅖ and N. ½ of S. ⅖	111
57. N. ⅕ and S. ⅗	156⅘
58. N. ⅔ of S. ⅗	76⅖
59. S. ⅓	43
61. N. ¼ and N. ½ of S. ½	83
62. N. ⅕	35⅘
64. S. ⅕ and S. ½ of N. ⅖	70
66. Ex. N. ⅕ and S. ⅕	108
68. N. ⅕ and N. ⅓ of S. ⅗	73⅕
69. N. ½ of S. ⅖ and S. ½ of N. ⅖	78
70. N. ⅕	36⅘
71. N. ½	67
72. S. ⅕ and N. ⅓ of S. ⅗	84⅖
73. N. ¾	125¼
77. N. ⅕ and N. ½ of S. ⅖	73⅕
78. N. ½ of S. ⅖	37⅖
81. N. ⅕	37⅗

Township 14 — *continued.*

Town and lot.	Area in acres.
82. S. ⅕	36⅘
84. N. ½ of S. ⅖, and S. ½ of N. ⅖	78
86. N. ½ and S. ¼	126
90. N. ½ of S. ½	42¼
92. N. ¼ and S. ½	129
96. N. ¼	41
99. N. E. ¼	37
100. S. ¼	37¼
101. N ¼	39
103. S. ¾	120
104.	178
106. N. ⅕ and S. ⅖	109⅕
107.	128

Township 15.

North East ¼.

Town and lot.	Area in acres.
Duane:	
1.	469
2.	469
3.	469
4. Ex. 345 a. E. P't	124
5.	469
7.	469
8.	469
9.	469
10.	469
12.	469
13.	469
14.	469
15.	469
16. W. end	95

North West ¼

Town and lot.	Area in acres.
S. P't, 1987 a. Ex. 750 a. W. end thereof	1237
18.	166
25.	156

South West ¼.

Town and lot.	Area in acres.
Brighton:	
4.	100
5.	100
6.	100
7.	100
8.	100
9.	100
10.	100
14.	100
15.	100
16.	100

Township 15 — *continued.*

Town and lot.	Area in acres.
17.	100
18.	100
19.	100
20.	100
24.	100
25.	100
26.	100
27.	100
33.	100
36.	100
37.	100
38.	100
40.	100
46.	100
47.	100
48.	100
49.	100
51.	100
52.	100
53.	100
55.	100
56.	100
57.	100
58.	100
59.	100
60.	100
61.	100
62.	100
63.	100
65. E. ½ or E. P't.	50
66.	100
67.	100
68.	100
71.	100
72.	100
76.	100
77.	100
78.	100
79.	100
80.	100

Township 18.

1.	328
2.	328
4.	328
5.	328
6.	328

Township 18 — *continued.*

Town and lot.	Area in acres.
7. Ex. und. ¼ paid by Albert Turner	246
8. Same	246
9. Ex. und. ¼ paid by Albert Turner and und. ¼ paid by Chauncey Turner	164
10. Same	164
11.	328
12.	328
13.	328
14.	328
16.	328
17. Ex. und. ¼ paid by Albert Turner and und. ¼ paid by Chauncey Turner	164
18. Same	164
19. Same	164
20. Same	164
21.	328
22.	328
23.	328
24.	328
25.	328
26.	328
27. Ex. und. ¼ paid by Albert Turner and und. ¼ paid by Chauncey Turner	164
28. Same	164
29. Same	164
30. Same	164
31.	328
32.	328
33.	328
34.	328
35.	328
36.	328
37. Ex. und. ¼ paid by Albert Turner and und. ¼ paid by Chauncey Turner	164
38. Same	164
39. Same	164
40. Same	164
41.	328
42.	328
43.	328
44.	328
45.	328
46. Ex. und. ¼ paid by Albert Turner and und. ¼ paid by Chauncey Turner	164
47.	164
48. Ex. und. ¼ paid by Albert Turner	246
49. Ex. 50 a. S. W. cor. 20 c. N. and S. and 25 c. E. and W. 278 a. ex. und. ¼ thereof paid by Albert	

Township 18 — *continued.*

Town and lot.		Area in acres.
	Turner and und. ¼ thereof paid by Chauncey Turner	139
50.	Ex. und. ¼ paid by Albert Turner and und. ¼ paid by Chauncey Turner	164
56.		328
57.		328
58.	W. P't	243
66.		328
67.		328
68.	W. P't	243
76.	S. W. cor. 27 c. N. and S. and 35 c. E. and W..	94
77.	S. W. cor. or S. W. P't 21 c. N. and S. and 36 c. E. and W.	75
78.	B'd N. and S. by lot lines, E. by land of Wm. Ricketson and W. by F. T. B. Weller's land .	105
87.		328
88.	W. P't	243
97.		328

Township 20.

Brandon:		
	Whole. 30,650 a. ex. 320 a. S. ½ of lot 10 and 320 a. S. ½ of lot 15	30,010

Township 23.

North ½.

E. end	4379

South East ¼.

N. end 6280 a. ex. 144 a. N. W. cor. thereof 80 c. long N. and S. by 18 c. wide E. and W.; 40 a. being Birch Island, in S'ly end of the Upper Saranac Lake, near and in a N'ly direction from Cory's Carry; 267 a. b'd beg. at a stake and stones N. 2° W. 24 r. from a large rock on N'ly bank of the outlet to Upper Saranac Lake and 2 r. and 10 ft. below the State Dam, called Norton's Dam, th. N. 80° E. 150 r. to a stake and stones standing 10 r. N. of the N. bank of said outlet, th. S. 10° E. 214 r. to a stake and stones on a high hill, th. S. 80° W. 200 r. to a stake and stones, th. N. 10° W. 214 r. and th. N. 80° E. 50 r. to beg.; 266$\frac{17}{20}$ a. b'd beg. at a large rock on the S'ly shore of the Upper Saranac Lake, which rock is near the Indian Carry, nearly N. from Jesse Corry's "Rustic House," and S. from house on Birch Island, th. N. 34r., th. E. 114 r., th. S. 230 r., th. W. 194 r., th. N. 200 r., and th. E. 80 r., to beg	5,595$\frac{3}{20}$

Town and lot.	Area in acres.
Township 24.	
North East ¼.	
Harrietstown:	
W. ½	3,750
North West ¼.	
Whole	7,500
South East ¼.	
Whole	7,500
South West ¼.	
Whole	7,500
Township 25.	
Waverly:	
Und. ⅓ of all that remains of N. ⅓ of Township, after ex. 1295 a. E. P't thereof and 160 a. b'd beg. on E. shore of Big Tupper's Lake at the mouth of Sucker Brook, th. S'ly along the shore of said lake 40 c., th. E'ly 40 c., th. N'ly 40 c., and th. W'ly 40 c. to beg	2,399⅔
Township 27, North West ¼.	
Harrietstown:	
B'd N. by 1961 a., N. end E. by N. E. ¼ S. by Rackett River and Pond, or Ampersand Pond or Lake, and the branch of Rackett River, and W. by a line par'l to E. line, being the same land conveyed by John and Thomas Appleby Jr., to Thomas Lawrence, Sept. 25, 1839	1,000
OLD MILITARY TRACT.	
Township 8.	
Bellmont:	
36. N. W. cor	200
55.	640
63. N. W. ¼	160
65.	640
66.	640
86. Ex. N. W. ¼	480
87. W. ½	320
Township 9.	
Franklin:	
7. N. W. ¼	36⅞
Bellmont:	
28.	152

Township 9, *O. M. T.* — *continued.*

Town and lot.	Area in acres.
Franklin:	
30. N. ⅔ of 114 a., W. P't	76
Bellmont:	
45.	160
81. Ex. N. E. ¼	120
97. N. ½ and S. E. ¼	120
99.	160
Franklin:	
102 Ex N. ⅓ of W. 120 a	160
Bellmont:	
127.	116⅓
Franklin:	
138. S. W. ¼	50
147.	200
150.	180
Bellmont:	
152.	160
171.	160
173. N. E. ¼	40
Franklin:	
174.	200
176. S. E. ¼	40
177. N. W. ¼	41
182. S. W. ¼	40
184. Same	40
186. Ex. N. E. ¼	135
191. Ex. S. E. ¼	120
206. Ex. 60 a., W. P't in Plumador Pond	100
213. S. E. ¼	40
214.	200
225. Ex. N. W. ¼	120
Bellmont:	
228.	160
241.	160
Franklin:	
242.	160
246.	200
249. S. E. ¼	40
263.	160
Bellmont:	
264.	160

Township 9, *O. M. T.* — *continued.*

Town and lot.	Area in acres.
Franklin:	
278. Ex. N. W. ¼	120
279.	160
283.	180
296.	160
Bellmont:	
300.	160
308. E. ½ ex. 13 a., W. side thereof	67
310.	160
Franklin:	
315.	160
316. Ex. S. W. ¼	120
329.	160
331.	200
Bellmont:	
338. S. E ¼	40
339. N. W. ¼	40
341. W. ½	80
Franklin:	
350. Ex. 69¾ a., b'd beg. in S. W. cor. of lot, th. N. 20 c., th. N. 50 °., E. 22 c. 33 l., th. S. 40°., E. 30. c., th. S. 50°. W. 8 c. 33 l. to S. line of lot and th. W. on S. line to beg.	119$\frac{15}{100}$
352.	182$\frac{8}{10}$
353.	180
355.	200
356. Ex. S. W. ¼	127$\frac{95}{100}$
357. N. E. ¼ and S. W. ¼	83$\frac{9}{10}$
358.	200
359.	161$\frac{4}{10}$

Township 10.

Town and lot.	Area in acres.
15.	200
16. Ex. S. ½ of N. ⅔ of E. ½	166⅔
17. Same	166⅔
18.	200
19. Ex. 80 a. E. P't and 40 a. N. ⅓ of W. 120 a.	80
22. S. P't	64
33.	200
34.	200
38.	200
84. S. W. cor	15
85.	168
87.	168

Township 10, *O. M. T. — continued.*

Town and lot.		Area in acres.
89.		168
90.		168
96.		168
106.		200
107.		200
112.		200
113.		200
114.		200
115.		200
126.		200
127.		200
128.		200
138.		200
141.		200
144.	Ex. N. ⅓ of 120 a. W. P't	160
152.		200
166.	Ex. 80 a. E. P't and 80 a. N. ⅔ of 120 a. W. P't.	40
167.		200
168.		200
171.		200
179.		200
185.		200
186.		200
187.		200
188.		200
189.		200
190.		200
193.		200
198.	Ex. S. E. ¼	150
199.	W. ½	100
200.		200
209.		200
210.		200
211.		200
213.		200
214.		200
215.		200
218.		200
219.		200
221.		200
222.		200
223.	Ex. 80 a. E. P't known as Mill Lot	120
224.		200
225.		200
226.		200
227.		200
228.		200

Township 10, *O. M. T. — continued.*

Town and lot.	Area in acres.
229.	200
230.	200
231.	200
232.	200
233.	200
250.	200
251.	200
252.	200
253.	200
254.	200
255.	200
256.	200
266.	200
267. Ex. N. W. ¼	150
268.	200
269.	200
270.	200
271. Ex. N. E. ¼	150
278. Ex. 40 a. S. ½ of E. 80 a	160
280.	200
281.	200
285. Ex. N. W. ¼	150
287.	200
288. E. ½	100
289.	200
290. S. ⅓ of N. W. ¼, 16 ⅔, a. and 43⅓ a. being so much of the S. E. ¼, as is not contained in S. ⅓ of W. 120 a.	60
292.	200
294.	200
295.	200
296.	200
307.	200
308.	200
309.	200
310.	200
311.	200
312.	200
313.	200
314.	200
316. Ex. 50 a. S. W. cor.	150
317. Ex. N. W. ¼	150
318.	200
319. S. ½	100
324. Ex. S. E. ¼	150
325. Ex. 70 a. N. end	130
327.	200
328.	200

Township 10, *O. M. T. — continued.*

Town and lot.	Area in acres.
329.	200
330.	200
331.	200
332.	200
333.	200
334.	200
335. Ex. S. E. ¼	150
349.	240
350.	240
351.	240
352.	240
353.	240
355.	240
356.	240
357.	240
358.	240
359.	240
360.	240

ST. REGIS RESERVATION.

Farm Lots.

Bombay:

	rods.
6. N. E. cor.	6

MILE SQUARE ON SALMON RIVER.

House Lots.

Fort Covington:

26.
27.
28.

FULTON COUNTY.

LIST OF LANDS BELONGING TO THE STATE.

Total number of acres 15,248.874.

DETAILED STATEMENT.

CHASE'S PATENT.

Town and lot.	Area in acres
Bleecker:	
8.	100
35.	100
37. E. P't	50
44. E. ½	50
48. Ex. 70 a. N. W. cor	30
53.	100
60.	100
61.	100
70. E. ½	50
71.	100
72.	100
73.	100
74.	100
75.	100
77.	100
78.	100
79. N. W. P't in Bleecker	80
Mayfield:	
81. Chase's patent	100
83. All in Mayfield	65
Bleecker:	
83. N. W. P't in Bleecker	35
Mayfield:	
92. All in Mayfield	30
110. N. W. cor. 30 a. and S. W. cor. 15 a	45
111.	100
114.	100
115.	100
116. All in Mayfield	35

GLEN, BLEECKER & LANSING PATENT.

Town and lot.	Area in acres
2. S. ½ Subs. 1 and 2	250
3. Sub. 1	100
4. Sub. 3	99
4. Sub. 4	80
4. Sub. 5	119
4. Sub. 6	99
4. Sub. 7	99
6. Sub. 5, S. ½	50
6. Sub. 7	100
6. Sub. 10	100
9. Sub. 5	94
9. Sub. 6	94
9. Sub. 7	113
Bleecker:	
14. Sub. 6	100
Mayfield:	
16. Sub. 8 E. ½	50
17. Sub. 2	125
17. Sub. 3	125
17. Sub. 5	125
17. Sub. 6	125
17. Sub. 7	125
Bleecker:	
18. Ex. 200 a. N. side	550
21. Sub. 3, S. ½	52
22. Sub. 1	100
25. Sub. 2, N. W. cor.	35
34. Sub. 4	200
35. Ex. Sub's 1, 4, 5, 6, 7, 8, and 9, and W. ½ of Sub's 2 and 3	383⅔
41. Sub. 6	100
41. Sub. 7	100
41. Sub. 8	100
41. Sub. 10	100
Caroga:	
45. Sub. 4, E. ½ or E. P't	50
51. Sub. 1	125
51. Sub. 2	125
51. Sub. 3	125
51. Sub. 5	125
51. Sub. 7	125
51. Sub. 8	125
52. Sub. 2	125
52. Sub. 3	100
52. Sub. 6	100
53. Sub. 7	125

Glen, etc., Patent — continued.

Town and lot.	Area in acres.
53. Sub. 10	125
58. Sub. 8	100
59. Sub. 1	100
61. Sub. 4	100
62. S. E. cor. square, 90 a. and N. W. cor. 240 a.	330
62. Sub. 2	100
62. Sub. 3	100
62. Sub. 6	100
62. Sub. 7	100
62. Sub. 8	100
62. Sub. 9	100
62. Sub. 10	100
63. S. P't	300
68. Sub. 10	100
Stratford:	
71. Sub. 1	100
71. Sub. 4	100
71. Sub. 5	100
82. E. P't 355 } Ex. 60 a. S. E. cor. thereof	
82. N. E. cor. 227 a. and S. E. cor. 288 a. 515	455
83. Sub. 3. S. P't of N. ½	30
83. Sub. 4, S. ½	50
83. Sub. 5	100
83. Sub. 6, Ex. 90 a. N. P't	10
84. Sub. 2	100
84. Sub. 4	100
84. Sub. 5	100
85. Sub. 4	100
85. Sub. 9, N. ½	50
90. Sub. 1 N. P't of 32 a. S. P't	4

JERSEYFIELD PATENT.

32. Sub. 3, W. ½	100
32. Sub. 5, W. ½, ex. 123 a. E. P't thereof, b'd W. by Highway	36
33. N. E. cor.	150
34. All in Stratford	130
59. Sub. 6	170
60. N. E. cor. square, 20 a. and S. E. ¼ or S. E. cor. 250 a.	270
61. W. P't	100
61. S. W. cor. or W. cor.	100
63. Ex. N. W ¼ and und. ⅓ of E. ½ paid by Frederick Bronson, E. L. Smith, Atty, or John J. Townsend, Ex'r.	583⅓
64. Sub. 2	100
64. Sub. 3	100

Jerseyfield Patent — continued.

Town and lot.	Area in acres.
66. W. ½	500
67. All in Fulton Co. 762 a. ex. 40 a. N. E. cor. thereof	722
88. All in Stratford, 363 a. ex. 100 a. N. E. cor. thereof	263
90. N. W. ¼	250
91.	1,000

KINGSBORO PATENT.

Westerly Allotment.

Johnstown:	
516. N'ly P't J. Wiley Lot	25

LOT AND LOW'S PATENT.

Ephratah:	
7. Sub. 2	130
Caroga:	
11. Sub. 2, ex. 45⅝ a. S. P't and 34⅛ a. b'd N. by Mann, E. and W. by lot line and S. by Stone.	52⅞

HAMILTON COUNTY.

LIST OF LANDS BELONGING TO THE STATE.

Total Number of Acres 157,608.446.

DETAILED STATEMENT.

Arthurboro Patent.

Town and lot.	Area in acres.
Morehouse:	
27.	200
28.	200
33.	200
36.	200
38. Ex. 30 a. S. W. P't.	170
41.	200
47.	200
48.	200
49.	200
50.	200
51.	200
62.	200
63.	200
65.	200
66. N. ½.	100
76.	200
79.	200
83.	200
88.	200
89.	200
90.	200
92.	200
93.	200
95.	200
97.	200
98. Ex. und. ½ paid by T. P. Ballou	100

BETHUNE TRACT.

Town and lot.		Area in acres.
3.	100 a. N. P't and 25 a. N. W. cor of 200 a. S. P't	125
5.		120
6.		120
7.	25 a. N. E. and 17 a. S. W.	42
8.		300
9.	W. side, lying N. W. of East branch of West Canada Creek	60
14.	Ex. 200 a. S. P't	100
15.		120
16.		120
17.		300

MOREHOUSE 8,000 ACRE TRACT.

2.	S. end	50
4.		200
5.		200
6.		200
7.		200
8.		200
9.		200
10.		200
11.		200
12.		200
13.	N. W. cor. 45 a. and S. W. cor. 45 a.	90
17.	S. ½	100
20.	S. end	100
22.		200
23.		200
24.		200
25.		200
26.	W. ½	100
29.		200
30.	N. ½ and S. W. P't	150
32.		200
33.		200
35.	N. P't of E. ½ 67 a. and N. W. cor. 50 a.	117
40.	N. end	38

TIFFT (J. G.) TRACT.

E. P't. b'd W. by Lot 3	1525

Benson Township.

Benson:

9.	160
14.	160

Benson Township — continued.

Town and lot.	Area in acres
15. N. ½	80
28.	160
29.	160
43.	160
45.	160
46.	160
62.	160
63. E. ½	80
64. N. P't.	40
68.	160
69.	160
75.	160
77.	160
78.	160
79.	160
Arietta:	
85.	160
91.	160
92.	160
Benson:	
100.	160
101.	160
102.	160
104.	160
110.	160
117.	107
118. S. E. cor. square	30
120. N. P't., ex. und. ½ of all returned, being Adirondack Co.'s land	30
121.	160
123.	160
131.	160
Arietta:	
143.	180
144.	90
145.	160
146.	160
147.	160
Benson:	
149.	160
150.	160
155.	160
156.	160
157.	160
158.	160

Benson Township — continued.

Town and lot.	Area in acres.
163. Ex. und. ½ paid by Finch, Pruyn & Co.	80
168.	160
171.	160
177. N. ½	80
179.	160
180.	160
181.	160
184. N. ½	80
188.	160
189.	160
Arietta and Benson:	
190.	160
Arietta:	
191.	160
192.	160
193.	200
194.	240
195.	240
Benson:	
197.	160
198.	160
202.	160
204.	160
205.	160
206.	160
207.	160
214.	160
217.	160
218.	160
219.	160
220.	160
222.	160
223.	160
224.	160
225.	160
228. Ex. 25 a. S. W. cor.	135
230. Ex. 25 a. N. W. cor.	135
231.	160
244.	160
245.	160
246.	160
247.	160
252.	160
253.	160
254.	160
255.	160

Benson Township — continued.

Town and lot.	Area in acres.
256.	160
257.	160
258.	160
259.	160
260.	160
262.	160
263.	160
265.	160
269.	160
271.	160
273. Ex. 40 a. E. side	120
281.	160
287.	160
291. S. ½	80
292. S. ½	80
293.	160
294.	160
296.	160
297.	160
298.	160
299.	160
300.	160
301.	160
302.	160
303.	160
307.	160
316.	160
318. Ex. S. ¼	120
319.	160
320.	160
321.	160
322.	160
323.	160
325.	160
327.	160
328.	160
329.	160
330.	160
Wells:	
331.	180
332.	160
333.	160
336.	160
338.	160
345.	160
351.	160
352.	160

Benson Township — continued.

Town and lot.	Area in acres.
353.	160
354.	160
355.	160
357. Ex. 50 a. S. E. cor	110
358.	160
360.	180
361.	160
362.	160
368.	160
374. Ex. 90 a. N. W. cor., and 35 a. being all that remains of 160 a. N. P't after ex. 125 a. N. W. cor. thereof.	55
375.	160
376.	160
377.	160
378.	160
379.	160
380.	160
381.	160
382.	160

BERGEN'S PURCHASE.

Patent No. 1.

7. Ex. 90 a. N. W. cor.	10
9.	100
11.	100

Patent No. 3.

Hope:

Being that part of patent No. 3 b'd N. by Wells, W. by Benson Township and S. by Patent No. 4.	450

Patent No. 4.

All in Hope.	200

Patent No. 5.

1.	273
2.	273
3.	273

PATENT No. 6.

East Side of Sacandaga River, East Part of North ½.

Town and lot.	Area in acres
1. Sturges Lot	100
2.	100
4. W. P't	75

East Part of South ½.

1. Sturges Lot	100
2. Sturges Lot	100

West Side of Sacandaga River.

All	668

PATENT No. 7.

5. Ex. 50 a. N. end owned by James Hayes	223
6.	273

PATENTS No. 8 and 9.

7.	108
11. N. W'ly ½	54
12.	108

PATENT No. 11.

5. Ex. 30 a. S. W. and 25 a. N. W	218

CHASE'S PATENT.

Benson:	
101.	100
102.	100
103.	160
105.	160
106.	100
107.	100
108.	100
116. N'ly P't	40
117.	100
118.	100
119.	100
120.	100

GLEN, BLEECKER & LANSING PATENT.

1. Sub. 3	127
1. Sub. 4	110

Glen, etc., Patent — continued.

Town and lot.	Area in acres
1. Sub. 6	129
1. Sub. 7	109
1. Sub. 8	110
1. Sub. 9	125
2. Sub. 5	125
2. Sub. 6	150
2. Sub. 7	150
2. Sub. 8	150
6. Sub. 1	100
6. Sub. 2	100
6. Sub. 3	96
6. Sub. 4	100
6. Sub. 6	100
8. Sub. 1, S. P't	60
8. Sub. 2	150
8. Sub. 3	150
8. Sub. 6	220
8. Sub. 7, S. P't	29
9. Sub. 1	100
9. Sub. 2	100
9. Sub. 3	100
9. Sub. 4	100

GORES.

GORE BETWEEN TOWNSHIP 1, TOTTEN & CROSSFIELD'S PURCHASE, AND BERGEN'S PURCHASE AND OXBOW TRACT.

Wells:

2.	160
3	160

Lake Pleasant:

4.	160
5.	160
6.	160

GORE BETWEEN TOWNSHIP 2, TOTTEN & CROSSFIELD'S PURCHASE, AND TOWNSHIP 9. MOOSE RIVER TRACT.

Arietta or Lake Pleasant:

7.	$100\frac{67}{100}$
8.	$69\frac{6}{10}$
9.	$149\frac{88}{100}$
10.	$124\frac{87}{100}$
11.	$188\frac{1}{10}$
12.	207
13.	$236\frac{34}{100}$
14.	$240\frac{58}{100}$
15.	$277\frac{17}{100}$

LAWRENCE PATENT.

Town and lot.	Area in acres.
Arietta:	
6.	635
7.	635
Morehouse:	
14. N. W. cor.	36
Arietta:	
19.	635
22.	635
26.	635
Morehouse:	
34.	635
35.	635
36.	777
47.	635
48.	635
49.	635

LEWIS (MORGAN) SMALL TRACT.

Hope:	
2. In town of Hope	100

MOOSE RIVER TRACT.

Township 9.

Arietta:	
7.	174
38.	200
39.	200
72.	200
Lake Pleasant:	
84. E. P't	50
85. E. P't	125
Arietta:	
118. Ex. 75 a. W. P't.	125
121.	$120\frac{78}{100}$
146.	250

OXBOW TRACT.

Wells:	
10.	646
Lake Pleasant:	
18. Ex. $282\frac{4}{10}$ a. S. P't.	$90\frac{6}{10}$
19.	274

Oxbow Tract — continued.

Town and lot.	Area in acres.
Wells:	
34.	300
Arietta:	
42.	301
Wells:	
51.	160
Arietta:	
61. All in Arietta	130
Wells:	
61. N. E. cor. in Wells.	40
Arietta:	
64.	155
75.	155
Lake Pleasant and Arietta:	
123.	155
Arietta:	
146. S. P't, rem. water	50
153.	155
188.	155
214.	155
218.	155
228.	375
252	177
253.	177
259.	179
280.	248
290.	$232\frac{86}{100}$
293.	$232\frac{86}{100}$
297.	236

PALMER'S PURCHASE.

GENERAL ALLOTMENT.

Wells:	
1. Sub. 5	100
1. Sub. 6	100
3. Sub. 5	100
3. Sub. 6	100
4. Sub. 8	100
4. Sub. 9	100
4. Sub. 10	100
6. N. E. angle in Wells	359
9.	1000
15. All in Hamilton Co.	895

Palmer's Purchase — continued.

Town and lot.	Area in acres.
Hope:	
24. Sub. 1.	200

REAR DIVISION — LEFFERTS TRACT.

North ½.

Range 1.

Wells:	
6. Ex. 25 a. E'ly end	75
9. S. W. ½	50
10. Ex. N. E. ½	36

Range 2.

6.	100
9.	100
10.	54

Range 3.

3.	100
4.	100
5.	100
6.	100
9.	100
10.	54

Range 4.

3.	100
4.	100
5.	100
6.	100
7.	100
8.	100
9.	100
10.	54

SICKELS AND VAN ANGLE TRACT.

Morehouse:	
5.	200

TOTTEN AND CROSSFIELD PURCHASE.

Township 1,

North ½.

Lake Pleasant:	
4.	250
5.	250
6.	250

Courtney 500 a. Tract.

Town and lot.		Area in acres.
	N. E. cor. b'd S. by Highway and W. by lands of Henry E. Courtney	87
	B'd N. by Lake Pleasant, E. by lands formerly belonging to Chas. Greenman and W. by lands occupied by Samuel Call	50
	B'd N. by Highway, E. by John Courtney and S. by lands formerly belonging to Eliza Lewis,	25
	B'd N. by Highway, E. by lands in possession of W. C. Gallup and W. by Henry E. Courtney,	85
	Spier and Brown Lot.	
	B'd N. by Township line, E. by lot 36, S. by lots 33 and 34 and W. by Lake Pleasant	400
	South East ¼.	
Wells :		
	S. E. cor. square	200
	VAN WAGONER TRACT.	
	Allotment 4.	
3.		258
4.		258
	South West ¼.	
1.		200
2.		214
5.	E. ½	150
7.		220
8.		222
9.		271
10.		311
11.		311
12.		285
13.		105½
	Township 2.	
Lake Pleasant :		
19.	N. end 144 a. and S. E. cor. 20 a	164
20.	E. Side	160
21.	B'd N. by lands of Henry Satterle, E. by lot 22, S. by lands of Aaron Sturges and W. by Tefft and Russell's 144 a	50
21.	W. side	184
22.		269
23.		269
24.	B'd N. by Tefft and Russell's 84 a. E. and W. by lot lines, and S. by land of Charles Ahlschlager	70

Township 2 — *continued.*

Town and lot.	Area in acres.
25. N. end	50
29.	269
33. S. P't.	85
34.	269
40.	269
44.	269
46.	269
51.	269
53.	269
55.	269
66.	269
77.	269
85.	269
86.	269

Township 3.

Town and lot.	Area in acres.
Arietta:	
3. All in Arietta	100
Lake Pleasant:	
4.	150
6.	150
7.	150
10.	150
11. Ex. S. E. ¼	112½
12.	150
18.	150
Arietta:	
20.	150
21. N. E. ¼	37
22.	112
24.	150
25.	150
Lake Pleasant:	
27.	150
28.	150
29.	150
30.	150
31.	150
32.	150
33.	150
34.	150
35.	150
36.	150
37.	150
38.	150
39.	150

Township 3 — continued.

Town and lot.	Area in acres
Arietta:	
41.	150
47.	150
49.	150
Lake Pleasant:	
50. Ex. S. W. ¼	112½
51.	150
52. N. ½	75
53. Ex. S. E. ¼	112½
54.	150
58.	150
59. Ex. N. E. ¼	112½
60.	150
Arietta:	
63.	150
64.	150
65.	150
66.	150
67. Ex. N. W. ¼	112½
68. S. W. ¼	38
69. Ex. N. E. ¼	112½
70.	150
71.	150
72.	150
Lake Pleasant:	
73. N'ly end of 75 a. E. P't in Lake Pleasant	50
Arietta:	
73. N. W. P't in Arietta	50
Lake Pleasant:	
74.	150
75.	150
76.	150
77.	150
78. Ex. N. E. ¼	112½
79.	150
80. Ex. S. W. ¼	112½
81.	150
82. S. end of 25 a. E. cor. in Lake Pleasant	10
Arietta:	
82. N. W. cor., square	5
83.	150
84.	150
85. Ex. N. W. ¼	112½
86. E. end. of S. ½	10

Township 3 — continued.

Town and lot.		Area in acres.
88.		150
89.	Ex. S. E. ¼	112½
90.		75
91.	Ex. N. E. ¼	112½
92.	N. W. cor., square	5
93.		150
94.		150
95.	N. ½	75
96.	S'ly end of 75 a. W. P't in Arietta	3
Lake Pleasant:		
96.	S. E. cor. in Lake Pleasant	38
97.		150
98.		150
99.		150
100.		150
101.		150
102.	E. P't in Lake Pleasant	100
Arietta:		
102.	S'ly end of 60 a. W. P't	10
103.		150
104.	S. W. cor., square	15
105.	Same	15
106.	S. E. cor., square	20
107.	S. E. ¼ 37 a. and S. end of W. ½, 10 a.	47
109.	S. W. ¼ 37 a. and N. W. cor. square of all of N. ½ and S. E. ¼ not covered by water, 3 a.	40
110.	N. E. cor., square	20
111.	S. E. cor., square	20
112.	N. W. cor, square	10
113.	N. E. cor., square	10
114.	N. W. cor., square of part not covered by water,	10
115.	N. E. cor., square of part not covered by water,	10
116.	N. W. cor., square	10
117.	N. E. cor., square	10
118.	N. W. cor., square	20
Lake Pleasant:		
119.	S'ly end of 50 a. E. P't in Lake Pleasant	20
120.		150
121.		150
122.		150
123.	E. P't in Lake Pleasant	75
Arietta:		
123.	S'ly end of 75 a. W. P't in Arietta	1
124.	N'ly end	40
125.	S. W. cor., square	15

Township 3 — *continued.*

Town and lot.		Area in acres.
126.	S. E. cor. square of p't not covered by water	2
127.	S. W. cor., sq., of p't not covered by water	2
129.	N. W. cor., sq., of p't not covered by water	10
130.	S. E. cor., square	10
131.	N. W. cor., square	2
132.	W. ½, 75 a., and N. E. cor., square, 10 a	85
133.	N. E. cor., square	15
134.	N. W. cor., square	50
135.	E. end of N. ½, 50 a. and N. W. ¼, 50 a	100
136.	S. W. cor., square	25
137.	N. E. cor., square	10
138.	N. W. cor., square	50
139.		300
140.		300
141.		300
142.		300
143.	N. W. P't in Arietta	150
Lake Pleasant:		
143.	E. P't in Lake Pleasant	100

Township 6.

Arietta:		
4.		640
5.		640
6.		640
10.		640
Lake Pleasant:		
11.	All in Lake Pleasant	400
16.		640
17.		640
18.		640
Arietta:		
24.	All in Arietta	500
27.		640
Lake Pleasant:		
29.		200
Arietta:		
30.	All in Arietta	50
31.	Same	500
33.		640
37.		200
38.		200
46.		200

Township 6 — *continued.*

Town and lot.	Area in acres.
47.	200
54.	200
55.	200
62.	200
63.	200

Township 8.

North ½.

Town and lot.	Area in acres.
Lake Pleasant:	
13.	269
14.	269
15.	269
16.	269
17.	269
18.	269
19. N. $\frac{1}{3}$	86$\frac{2}{3}$
21.	260
22.	260
27.	260
29.	260
30.	260
31.	260
32.	260
39. N. W. cor.	48
40.	260
41.	243$\frac{32}{100}$
44.	243$\frac{36}{100}$

South East ¼.

Town and lot.	Area in acres.
5.	125
10.	125
11.	125
12.	125
13.	125
14.	125
15.	125
16.	125
17.	125
18.	125
19.	125
20.	125
21.	125
22.	125
Lake Pleasant:	
23.	125
24.	125

Township 8 — *continued.*

Town and lot.	Area in acres.
25.	125
"29. East"	125
"29. West"	125
30.	125
31.	125
32.	125
33.	125
34.	125
35.	125
36.	125
37.	125
38.	125
39.	125
40. Ex. 50 a. S. E. cor. in Wells	75
Wells:	
40. S. E. cor. in Wells	150

South West ¼.

Lake Pleasant:	
S. W. cor.	2,500

Township 9.

Lot b'd beg. at a tree standing at the outlet of Elm Lake, marked "W. B. and B. B.," th. S. 60° W. 12 c. 25 l., th. N. 30° E. 60 c. to a stake marked "B.," th. N. 60 °E. 14 c. to Lake shore, and th. S. along Lake shore to beg.	60
River Lot, b'd beg. at a beech tree marked "10 and 12," on the S. E. cor. of Lot 10 and S. W. cor. of Lot 12 of the Elm Lake Road Tract, th. N. 80° E. 134 c. to a stake marked corner, th. due N. 46 c. to a stake blazed on three sides, th. N. 85° W. 89 c. to the outlet of Elm Lake, th. 22 c. to the rear line of Lot 20 of the Elm Lake Road Tract at a point 10 c. from the N. E. cor. thereof, th. S. 28° E. to S. E. cor. of lot 20, and th. on the line of lots 20, 18, 14 and 12 of the Elm Lake Road Tract to beg.	704

ELM LAKE ROAD TRACT.

3.	50
6.	50
8.	50
10.	50

Elm Lake Road Tract — continued.

Town and lot.	Area in acres.
12.	50
13.	50
14.	50
15.	50
16.	50
17.	50
18.	50
19.	50
20.	50
Arietta or Lake Pleasant:	
22.	50

Townships 10 *and* 29, *T. and C.*

Wells:	
4. S. end	300
6. Ex. 400 a. N. end and 290 a. S. E. end	326
11. Ex. 100 a. N. end	716

Township 21.

Long Lake:	
1.	200
2.	200
3.	200
4.	200
5.	200
10.	200
11.	200
12	200
13.	200
14.	200
15.	200
16.	200
17.	200
18.	200
21.	200
22.	200
23.	200
24.	200
25.	200
26.	200
27.	200
28.	200
29.	200
30.	200
31.	200
32. W. ½	100

Township 21 — *continued.*

Town and lot.	Area in acres.
33.	200
37.	200
38.	200
39.	200
40.	200
41.	200
46.	200
47.	200
49.	200
50.	200
51.	200
52.	200
53.	200
54.	200
58.	200
61.	200
62.	200
63.	200
64.	200
65.	200
66.	200
73.	200
74.	200
75.	200
76. N'ly P't land	175
77.	125
80. Water through center	80
83.	200
85.	200
86. N. W. & S. E. P'ts, water through center	150
90.	200
91.	200
92.	200
96.	200
101.	200
102.	200
103.	200
104.	200
105.	200
106.	200
107.	200
108.	200
109.	200
112.	200
113.	200
114.	200
115.	200

Township 3 — *continued.*

Town and lot.	Area in acres.
116.	200
117.	200
118.	200
119.	200
120.	200
121.	200
124.	200
125.	200
126.	200
127.	200
129.	200
130.	200
131.	200
132.	200

Township 22.

South ½.

Long Lake:

23.	160
24.	160
25.	160
26.	160
27.	160
28. S. P't, rem. water	60
39.	150
40. S. P't, land	40
46.	160
47.	160
48.	160
49.	160
50. S. side, rem. water	130
60.	160
61.	160
63. N. end, S. P't water	30

Township 23.

(Including Triangle).

1. N. E'ly end	75
105. P't water	130

Township 32.

Indian Lake:

N. W. cor., square, 1100 a., ex. 273 a. N. W. cor. thereof	827

Township 33.

North East Corner.

Town and lot.		Area in acres
1.	Ex. und. ½ thereof, Adirondack Co. land	80
2.	Same	80
3.	Do	80
4.		80
5.		80
19.		80
21.		80
22.		80
23.		80
24.		80
25.		80
26.		80
27.		80
29.		80
30.		80
43.		80
44.		80
45.		80
48.		80
49.		80
52.		80
53.		80
54.		80

Township 35.

Long Lake:

N. E. ¼, ex. 150 a. water, 320 a. Gospel and School lands, and 2,765 a. und. ½ of all of rem. paid by Sarah T. Russell	2765
S. E. ¼, ex. 300 a. water, 320 a. Literature Lands, and 2,690 und. ½ of all of rem. paid by Sarah T. Russell	2690

Township 37.

48.		160
50.		160
52.		160
54.		160
56.		160
58.		200
100.	S. E. P't land	140

Township 40.

Ex. 6,001 a. water and Gospel, School and Literature lands; 50 a. on the W'ly side of Ra-

Township 40 — *continued.*

quette Lake, b'd beg. at a large rock-boulder on the S. shore of Sand Point from said rock, or place of beg., which is near a birch sapling, marked "C Lot 1," the bearing of the Western point or side of Pine Island is S. 13° W., the bearing to a large rock a few ft. E. of the E. end of Pine Island is S. 4° W., and the bearing of the W. point or side of High Island is S. 27° 30′ E. th. proceeding from said rock or place of beg. 30 c. 66 l. due N. to the N. side or shore of Sand Point, th. along the shore, around said Point, to beg.; 75 a. on the E'ly shore of Raquette Lake, known as the "Josiah F. Wood place," b'd N'ly and W'ly by the shore of the Lake, S'ly by a line par'l to the S'ly line of Township and running E'ly from a stooping Cedar tree on a sharp point of rocks at the Western extremity of a point of land known as "Osprey point," and E'ly by a line at right angles thereto; 40 a., more or less, b'd beg. at an Iron bolt in the top of a large rock or boulder on the N. Shore of Lake Elizabeth, said rock being N. 31° E. 24 c. 50 l. from the outlet of said Lake, and said outlet being 1 c. long from said Lake to Raquette Lake at low-water mark, th. from said Iron bolt N. 28° W. 21 c. 10 l. to a rock or boulder on the S. shore of Raquette Lake, th. W'ly and S'ly along said shore to the outlet of Lake Elizabeth aforesaid, and th. E'ly and N'ly along the N'ly and W'ly shores of said outlet and Lake Elizabeth to beg.; 30 a. E'ly end of Indian Point b'd W'ly 41 c. by line running N. 27° W., said line being 16 c. 63 l. W. from the Extreme point or E. branch of said Indian Point, measuring along the centre thereof; Bluff Island, in Raquette Lake, granted to the Protestant Episcopal Board of Missions of the Diocese of Albany, by chap. 552, Laws of 1881; 160 a. b'd beg. at the mouth of a small brook just W. of "North Point," so called, on the N. shore of Raquette Lake, th. N'ly, par'l with the E'ly line of Township 38 c. 75 l., th. E'ly par'l with N'ly line of Township 40 c., th. S'ly par'l with E'ly line of Township 38 c. 75 l. to said Lake, and th. W'ly along the shore of said Lake, as it winds and turns, including "North Point," to beg.;

Township 40 — *continued.*

Town and lot.	Area in acres.
160 a. being the W. end of "Long Point," b'd N., S. and W. by Raquette Lake and E'ly by the N. and S. centre line of Township; and ex. 3500 a., being an und. ½ paid by M. H. Beecher (which ½ was conveyed to W. H. Mead from the Tax sale of 1866) and an und. ½ paid by Wm. Cleveland, of 7,000 a. N. W'ly P't of Township, b'd beg. at centre of the mouth of Brown's Tract Inlet on Raquette Lake, th. W'ly up said Inlet along its centre to the W'ly line of Township, th. N'ly or N. 30° W. along said line, to the N. W. cor. of Township, th. E'ly along the N'ly line of Township so far that by proceeding S. 30° E. par'l to the E'ly line of Township to the shore of said Lake at low-water mark and th. along the N'ly and W'ly shore of said Lake at low-water mark to the place of beg. there shall be embraced 7,000 a. after deducting 50 a. on the E. end of Indian Point formerly owned by Wm. Wood and Matthew Beach, and also deducting a piece of land on the E. end of Sand point heretofore sold to Wm. Constable	13,024

Township 50.

Town and lot.	Area in acres.
1.	160
2.	124
3.	124
9.	124
10.	124
11.	124
16.	160
17.	160
18.	160
19.	160
23.	160
24.	160
26.	160
27.	160
29.	160
30. N'ly P't land, S'ly P't water	60
34.	120
35.	120
36. E'ly P't water	100
42. S'ly P't water	100
43.	160
44.	160
45.	160

Township 50 — *continued.*

Town and lot.	Area in acres.
48.	160
49.	160
50.	160
51.	160
52.	160
53.	120
54.	120
67.	160
68.	160
69.	160
90. All in Hamilton Co	80
VROOMAN'S PATENT.	
Morehouse :	
35. W. P't of E. ½	50
52. S. end	34

HERKIMER COUNTY.

LIST OF LANDS BELONGING TO THE STATE.

Total number of acres, 9,646.686.

DETAILED STATEMENT.

BAYARD'S OR FREEMASON'S PATENT.

Town and lot.	Area in acres.
Winfield:	
5. Sub. 7	2½
Litchfield:	
64. Sub. 10	10

JERSEYFIELD PATENT

Town and lot.	Area in acres.
Salisbury:	
3. W. ½ ex. 50 a. N. E. cor. thereof, and 174 a. S. W. cor. 30 c. wide N. and S., and 58 c. long E. and W. 276 a., and 50 a. S. W. cor. of N. E. ¼,	326
35. S. W. ¼	250
38. E. ½ of N. E. ¼, ex. 50 a. N. end and 25 a. S. end thereof, 50 a.; 200 a. N. end of W. ½ and 150 a. N. P't of 200 a. S. end of W. ½	400
40. All of N. ½ in Salisbury, 223 ¼ a., ex. 215 a. N. E. cor. thereof	8¼
Ohio:	
48. W. McIntosh's Part	14
53. All of W. ½ in Ohio, ex. 200 a. W. P't thereof, heretofore conveyed to Benjamin Hall, N. Bly and Alson Pierson	290
Salisbury:	
53. All of W. ½ in Salisbury	35
67. All in Salisbury	66
68. W. ½	500
Ohio:	
79. S. E. cor., "Chauncey Furgeson Lot," b'd N. by Town line and W. by land of Albert Abeel	100

Jerseyfield Patent — continued.

Town and lot.	Area in acres.
80. B'd N. and E. by Seymour Radley, S. by Nelson Radley and W. by Highway	7
Salisbury:	
82. All in Salisbury	100

MACHIN'S PATENT.

LUSH & MARVIN'S TRACT.

North ½.

Russia:	
5.	160

MOOSE RIVER TRACT.

Township 3.

Wilmurt:	
76.	160
77.	160
88.	160
89.	160
90.	160
100.	160
101.	160
102.	124
112.	160
113.	160
114.	135
124.	160
125.	160
126.	140
136.	160
137.	160

NOBLEBORO PATENT.

New Survey.

7.	150
23.	150
47.	150
48.	150
52.	150
53.	150
54.	150
57. Ex. 25 a. E. end and 100 a. W. end	25
59.	150

Nobleboro Patent — continued.

Town and lot.	Area in acres.
60.	150
61.	150
62.	150
90.	150
91.	150
94.	150
97.	150
98.	150
102.	150
104.	150
105.	150
123.	150
125.	150
126.	150
127. Ex. 10 a. S. E. cor	140
129.	150
132.	150
140.	150

Old Survey.

1. N. and S. Lakes and Flow lands.	
99. E. P't 200 a., ex. und. ⅔ thereof paid by F. Bronson	66⅔

ROYAL GRANT.

Fourth Allotment.

Salisbury:	
142. N. W. cor., square, 30 a. and S. W. cor., square, 30 a.	60

SUSANNAH JOHNSON TRACT.

27. S. E. cor., b'd N. by land of Joseph H. Walrath and line par'l to S. line of lot, and W. by Highway	25
28. W. end	15

WATSON'S EAST TRIANGLE.

Wilmurt:	
6. S. ½ and N. E. ¼	430
7. W. ⅓	289
13. Ex. 183 25/100 a. E'ly P't, and 205 78/100 a. b'd N. and S. by lot lines, and E. by John Beach's 183 2/10 a.	660 27/100
15. E. P't	346

WOODHULL TRACT.

7. All in Wilmurt	92

JEFFERSON COUNTY.

LIST OF LANDS BELONGING TO THE STATE.

DETAILED STATEMENT.

Port Putnam, Village of.

Town and lot.	Area in acres.
Cape Vincent:	
126 to 139 inc., 222 to 237 inc., 318 to 333 inc., each 50 ft. wide and 125 ft. deep, located on the S. E. bank of River St. Lawrence, about 2 miles E. of Cape Vincent.	

Worth, Town of.

South ½.

Town and lot.	Area in acres.
Worth:	
1. B'd beg. at N. E. cor. of 100 a. conveyed to Valentine Butler, th. along said land S. 2° W. 26 c. 50 l. to S. E. cor. thereof, th. par'l to N. line S. 79° E. 19 c., th. N. 2° E. par'l to E. line 26 c. 50 l. to N. line, and th. N. 79° W. along N. line to beg.	50

LEWIS COUNTY.

LIST OF LANDS BELONGING TO THE STATE.

Total number of acres, 2,865.243.

DETAILED STATEMENT.

BOYLSTON PURCHASE.

Township 13.

Town and lot.	Area in acres
Osceola:	
50. B'd N. by Potter or Porter, E. and W. by lot lines and S. by Brockway	61
63. N. ½ of 75 a. E. P't, b'd W. by A. Lake	37½
74.	236
134. S. P't, b'd N. by Geo. Boin	83
BRANTINGHAM TRACT.	
Greig:	
43.	209
95. S. P't, Trull	141
113. N. ½	100
118. S. E. cor. 100 r. N	100
171. W. side, 50 a. ex. 16⅔ a. all contained therein of 50 a. b'd N. by Bender, E. and W. by lot lines and S. by Smith	33⅓
Lyonsdale:	
203. E. side	32
204.	183
205. W. side, b'd E. by Bogart	144
208.	190
222. N. E. cor., "E. A. Brown"	2⅓
223. W. P't, b'd E. by Bogart	90
226. E. P't	77
262. N E. cor., b'd S. by Moose river	50
305. N. W. cor., b'd E. by T Rogers and S. by Black river	14
312. E. side, 93 a. ex. 3 a. und. paid by Caleb Lyon	90
314.	181

INMAN'S TRIANGLE.

Town and lot.	Area in acres.
Lewis :	
153. N. E. cor.	100
153. E. side	100
153. W. P't, 64 a. ex. 13 $\frac{9}{100}$ a. N'ly end thereof	50$\frac{91}{100}$
153. N. W. cor.	50

MACOMB'S PURCHASE.

GREAT TRACT 6.

Township 1.

20. B'd N. by lot line, E. by C. Sheitenmantel or Sheidelman and J. W. Barrett's land, or C. Sheidleman's land, S. by lot line or J. W. Barrett's land and W. by Van Wagner's or Van Wagoner's land, or 71 a. W. side of lot	45
44.	259
57. E. side	100

Township 3.

Turin :

LUCRETIA CONSTABLE'S PURCHASE.

84. B'd N'ly by Hiram Carpenter's land, E'ly by lands of Aaron Parsons and others, S'ly by lot line and W'ly by land of Heirs of Calvin Roberts, dec'd	2
84. B'd N'ly and E'ly by Hiram Carpenter's land, S'ly by lot line and W'ly by land of Brainard Coe and others	3
84. B'd N'ly, E'ly and W'ly by Eli Doud's land and S'ly by lot line	4
84. S. W. cor. b'd N'ly by Hiram Carpenters land and E'ly by B. Coe's land	3

WATSON'S WEST TRIANGLE.

Watson :	
240. S. P't	48

WILKES TRACT.

Greig :	
5. S. P't	46

ONEIDA COUNTY.

LIST OF LANDS BELONGING TO THE STATE.

Total number of acres, 3,816.493.

ADGATE'S EASTERN TRACT.

Gouverneur Lot.

Town and lot.	Area in acres.
Forestport:	
Ex. 100 a. S. P't, owned by T. Dellarme.......	600
Miller & Swanton Lot.	
6. Sub. 1, Ex. $32\frac{1}{2}$ a. conveyed to John Harrig, Jr., June 16, 1864, and recorded in Book 253 of Deeds 49, and $39\frac{16}{100}$ a. conveyed to John Skillen April 1, 1863, and recorded in Clerk's Office of Oneida county April 10, 1863, in Book 244, page 76..............................	$28\frac{34}{100}$
10.	350
14. N. P't, 300 a. S. W. cor. 50 a., and 50 a. S. W. cor. of Sub. 1, 12 c. N. and S. and $41\frac{3}{4}$ c. E. and W..............................	400
15.	400

ADGATE'S WESTERN TRACT.

East Side of Black River.

Town and lot.	Area in acres.
Boonville:	
55. N. P't..................................	25
73. B'd beg. on W. line of lot in centre of road to Hawkinsville, th. on lot line N. $36\frac{1}{4}$° W. 8 c. 37 l., th. N. 55° E. 15 c., th. N. 35° W. 7 c., th. N. 55° E. 9 c. 60 l. to E. line of lot, th. S. 1° W. 24 c. 40 l. to centre of road to Hawkinsville, and th. S. $72\frac{1}{2}$° W. along the centre of said road 9 c. 50 l. to beg.................	20
74. B'd beg. at the N. W. cor. of Nathan Jones' lot, th. N. 1° E. 2 c. 80 l. to centre of road, th.	

Adgate's Western Tract — continued.

Town and lot.		Area in acres.
	W'ly along said centre 1 c. 45 l. to Wheelock's line, th. N. 1° E. 12 c. 84 l., th. N. 52° E. 5 c. 90 l., th. S. 1° W. 5 c., th. S. 26¾° E. 15 c. 58 l. to Nathan Jones' land, and th. N. 89° W. 10 c. 50 l. to beg., 13 a. ex. 2 a. on N. side of road adj. land owned and occupied by James E. Wells, heretofore sold by Andrew J. Moon and wife to M. V. B. Moon, and ex. 2 a. on S. side of road, deeded by Samuel L. Joslyn and wife to John Bertunah or Bedunah..........	9
74.	B'd beg. in center of road N. 89° 10′ E. 9 c. 75 l. from the W. line of lot, th. N. 2° 10′ E. par'l with W. line 32° 38′ to a stake and stones, th. N. 52° 10′ E. 9 c. 54 l., th. S. 2° 10′ W. 18 c. 50 l., th. S. 52° 10′ W. 6c. 25 l., th. S. 2° 10′ W. 13 c. 12 l. to centre of road and th. S. 89° 10′ W., in centre of said road, 2 c. 53 l. to beg,	16½
74, 75, 76 and 79.	Parts thereof, being the same premises conveyed by Morris S. Miller and others to Richard Hulbert by Deed dated January 15, 1856, recorded in Clerk's office of Oneida Co., March 22, 1856, in Book 194 of Deeds, page 478, etc........................	155 82/100
75, 76 and 79.	Parts thereof, b'd beg. at a hemlock tree on N. side of Cummins Creek about 1½ c. below Burgess saw mill, th. N. 10° E. 7 c. 50 l. to a beech marked, th. N. 80° E. 40 c. 50 l. to a hemlock marked, th. S. 10° E. 16 c. 75 l. to a spruce marked, th. S. 71° W. 49 c. 46 l. to Cummins Creek at a spruce marked and th. up said creek 33 c. 50 l. to beg., 100 a. ex. 15 a. p't of Lot 75 as surveyed by C. L. Phelps, Feb. 23, 1864, and deeded to Andrew Wells, January 1, 1864........	85

BAYARD'S OR FREEMASON'S PATENT.

Bridgewater:

5.	Sub. 7.......................................	2½

MACHIN'S PATENT.

Towns of Ava, Boonville and Steuben.

Boonville:

6.	B'd beg. on E. line of lot 20 c. from S. E. cor. thereof, th. S. 89° 15′ W. par'l with S. line of lot 35 c. to stake and stones, th. N'ly along land of Henry Shott 20 c. to a stake and stones,	

Machin's Patent — continued.

Town and lot.		Area in acres
	th. N. 89° 15′ E. along land of John A. Philips 35 c. to lot line and th. S. 20 c. to beg., 70 a., ex. 2 a. thereof, occupied for road bed by the Black River & Utica R. R. Co.	68
16.	Ex. 300 a. S. P't.	$252\frac{38}{100}$

ONEIDA CASTLE VILLAGE.

Vernon:		
16.	Reserved for Public Buildings.	
21.		
34.	Reserved for Cemetery.	
58.		
105.		
110.		

REMSENBURGH PATENT.

Forestport:		
3.	N. E. cor., b'd S. by Byford, or land of S. Bigford, or land occupied by S. Beckford, and W. by land of O'Brien, 170 a., ex. 84 a. N. E. cor. thereof, b'd S. by Tefft and W. by Highway	86
19.	S. W. ¼	125
21.	S. E. cor., b'd N. and W. by River	3

SCRIBA'S PATENT.

Township 3.

Annsville:		
13.	S. E. cor	18
80.	In N. ½, (Mortgage, Sept. 19, '71)	$2\frac{11}{16}$
80.	S. ½ of W. P't. (Same.)	$48\frac{1}{16}$
81.	All. do.	$48\frac{1}{16}$
Florence:		
103.	S. E. cor., b'd beg. on E. side of Highway leading from Empeyville to Remsen, at Benjamin Tanner's Saw-mill at S. line of T. H. Simpkins' land, th. along Simpkins' land to Lot 104, th. S'ly along lot line to land of Ransom and Benjamin Tanner, th. W'ly along said land to said Highway, and th. N'ly along said Highway to beg.	11
117.	B'd beg. at S. W. cor. of lot, th. S. 67° E. along lot line 16 c. 26 l., th. N. 23° 53′ E. 22 c. 32 l., th. S. 67° E. 3 c. 50 l. to centre of Highway, th. N. 23° 53′ E. 20 c. 89 l. to centre or turn in Highway, th. N. 6° 52′ along centre of High-	

Township 3 — *continued.*

Town and lot.		Area in acres.
	way 6 c. 81 l. to lands of Wm. Whipple on lot 103, th. N. 67° W. 16 c. 26 l. to line, th. S. 23° 53′ along lot line 48 c. 74 l. to beg.	88 32/100
Annsville:		
150.	S. E. cor.	18

Township 8.

West Part in Camden.

Camden:		
8.	B'd N. by lands of Abram Skinner, E. by lands of F. Skinner, S. by lands formerly owned by Strong, and W. by lands of Robert Robertson.	30
44.	N. W. cor., b'd E. by Fish Creek and S. and W. by lands of Miner Buel or Buell.	3

Township 9.

Vienna:		
19.	N. W. cor.	14

Township 10.

North ½.

31.	N. end	79
55.	W. ½ of 49½ a. S. P't.	24¾
63.	S. E. cor.	14
66.	W. P't, b'd beg. at N. E. cor. of lot 65, th. S. 68° E. along lot line 7 c. 75 l. to a stake, th. S. 22° W. 33 c. to a stake on N. line of Peter J. Munro's Tract, th. N. 80° W. along said Monro's N. line 8 c. 4 l. to the S. E. cor. of lot 65, and th. N. 22° E. along E. line of said lot 65, 35 c. to beg.	26 84/100

UTICA CITY.

West Street.

Utica City:		
28.	Taylor's Map.	

East Side.

Re-allotment of Block 12, Stocking Farm.

Block 2.

Seventh Ward.		ft.
18.		40x114

West Side.

Re-allotment of Block 12, Stocking Farm.

Block 1.

28.		40x114

WILETT'S (MARINUS) 2000 a. TRACT.

Town and lot.	Area in acres.
Steuben:	
5. W. P't, 25 c. wide N. and S. and 26 c. long E. and W	65

WOODHULL TRACT.

Town and lot.	Area in acres.
Forestport:	
13. Sub. 16	83
38. Sub. 5, S. ½	59
38. Sub. 6	$114\frac{32}{100}$
39. Sub. 1	100
39. Sub. 3	180
39. Sub. 4, 5 and 6, and P't of B. being W. P't of lot	156
40. Sub. 3 N. ½	54½

SARATOGA COUNTY.

LIST OF LANDS BELONGING TO THE STATE.

Total number of acres, 9,489.912.

DETAILED STATEMENT.

DARTMOUTH PATENT, SMALL TRACT.

Range 4.

Town and lot.		Area in acres
Hadley:		
3.	B'd N. by Town land, E. by lot 4, S. by lands of Jonathan Flanders and W. by lands of Alexander Kennedy..................................	36

GLEN AND YATES PATENT.

Day:		
13.	N. W. cor. b'd S. and E. by land assessed to Jesse Perkins.	16
48.	N. E. P't b'd beg. No. 60° E. 28 c. from the original lower corner of lot 47, th. N. 60° E. 31 ch. 50 l. to the N. E'ly line of above Patent, th. S. 30° E. 33 c. 33 l. to a cor., th. S. 60° W. 31 c. 50 l. to a cor., th. N. 30° W. 33 c. 33 l. to beg..................................	105

GLEN AND 44 OTHERS PATENT.

6.	....	250
17.	....	120
Corinth:		
39.	All in Corinth........................	112
Edinburgh:		
39.	All in Edinburgh	150
Corinth:		
51.	All in Corinth.............................	86

Glen, etc., Patent — continued.

Town and lot.	Area in acres.
Edinburgh:	
59.	250
60.	250
65.	250
81.	250
85. Sub. 3	100
86. Sub. 7	100
87. Sub. 9	100
88. Sub. 10	100
108.	250
112.	250
134. N. E. end or E. P't in Edinburgh	200
Providence:	
141, 142, 143 and 144, Sub. 8	100

KAYADEROSSERAS PATENT.

17th *Allotment, Great Lot* 6.

Greenfield:	
12. B'd N. by highway leading from Stile Tavern stand to Henry Lockwood's, E. by Great Lot 7 of above allotment, S. by lands of R. Morris and W. by lands of C. L. Williams	$40\frac{15}{100}$

Great Lot 9.

Wilton:	
3. Sub. 1, E. P't b'd. beg. at a stake in the skew line, th. N. 74° 45′, W. 10 c. to a stake, th. S. 9 c. to the skew line, and th. N. 55° E. along said line to beg	4a 2r

18*th Allotment, Great Lot* 2.

3. Sub. 4, b'd, beg. at a stake near a yellow pine tree at the N. E. cor. of lands formerly in possession of James Herrick, now of N. Robbloe, th. W. 15 c. 20 l. to a stake, th. N'ly 44 c. 47 l. to the skew line, th. along said line N. E. 18 c. 23 l. to a stake, and th. S. 57 c. 44 l. to beg.	60

19*th Allotment, Great Lot* 11.

Northumberland:	
1. B'd beg. at S. W. cor. thereof, th. E. along lot line 58 c. 38 l. th. N. as the needle pointed in 1769, 15 c. 66 l. th. W. 58 c. 38 l., th. S. to beg	$90\frac{3}{4}$

21st Allotment, Great Lot 13.

Town and lot.	Area in acres.
Greenfield :	
3. Sub. 4, b'd. N. by lands of Charles Hunt, E. by 22d. allotment, S. by lands of Lewis S. Mills and W. by Sub. 3........................	55

22d Allotment, Great Lot 13.

F. B'd N. by lands of W. W. French, E. by lands of Charles E. Benedict, S. by lands of Perry Arnold and W. by lands of Standish and others..................................	75

24th Allotment, Great Lot 1.

Town of Corinth.

Corinth :	
1. Sub. A. all in Corinth, 299 a. except 100 a. S. ⅔ of 150 a. N. P't thereof...................	199
1. Sub. B...................................	348
2. Sub. 2 S. P't................................	100
3. Sub. D all in Corinth, 486 a. except 101 a., being all of 106 a. W. ½ of 212 a., S. P't of Sub., and of 8 a., N. of and adj. said 212 a. in said town of Corinth..............................	385

Great Lot 2.

Town of Corinth.

1 or a. Sub. 1 N. P't b'd S. by Hewitt, Clark and Andrews or Anderson and Spaulding, 900 a. ex. 200 a. S. ⅓ of 600 a. N. end thereof.......	700
2 or b. S. P't b'd N. by Chrysler lot, 737 a. ex. 400 a. b'd N. by Chrysler lot, E. and W. by lot lines and S. by N. M. Houghton...........	337

Great Lot 3.

Town of Corinth.

1. Sub. A. S. P't..................................	30
1. Sub. B.......................................	175
1. Sub. C.......................................	175
2. Sub. 1, N. P't, b'd S. by D. Martin or I. Carpenter.	503
2. Sub. 2, S. P't, b'd N. by Tiffany..............	90

Town of Day.

Day :	
1. Sub. 1....................................	100
1. Sub. 3....................................	80

Great Lot 4.

Town and lot.	Area in acres
Corinth:	
1. Sub. 2, 461 a. ex. 150 a. S. end thereof	311
2. B'd N. by Gowan or Gower lake, E. and W. by lot lines and S. by Riley, 708, ex. 250 a. b'd N. by Sherman, Houghton and Ambler, E. and W. by lot lines and S. by Riley	458

Great Lot 6.

1. Sub. N. N. P't	35
2. Sub. H	100

PALMER'S PURCHASE.

GENERAL ALLOTMENT.

Day:	
16. All in Day	37
27. All in Day, 555, ex. 305 a. N. P't thereof	250
31. B'd N. by Co. line, E. and W. by lot lines and S. by 888 a. assessed to L. Thompson, Weaver & Co.	50
35. N. P't of all in Day, b'd S. by 525 a. assessed to F. G. McOmber	209
45. Ex. 700 a. N. end and 150 a. S. end	150

SANDER'S PATENT.

Corinth:	
12. W. ½	50
15.	100
17.	100
21. Stedman Lot	100
22. Bussing Lot	100
29.	99
30.	96
33.	87
34.	87
35.	101
37.	101
38.	101
39.	82

Small Lots.

1.	23
2.	24
3.	17

ST. LAWRENCE COUNTY.

LIST OF LANDS BELONGING TO THE STATE.

Total number of acres, 41,263.314.

DETAILED STATEMENT.

CANTON TOWNSHIP.

Mile Square Lots.

Range 3.

Town and Lots.	Area in acres.
Canton:	
7. Sub. 6, S. W'ly ½	50

COLUMBIA VILLAGE.

Main Street.

North Side.

Town and Lots.	Area in acres.
Madrid:	
14.	

COOPER'S FALLS VILLAGE.

Town and Lots.	Area in acres.
DeKalb:	
B'd N., N'ly or N. E'ly by Village Lots 13, 15 and 17, E'ly, S. E'ly or S'ly by center of Plank Road from DeKalb Village to the Village of Cooper's Falls, S'ly or S. W'ly by centre of River or Ravine St. or Ave., to be laid out 100 ft. in width from said Plank road to Oswegatchie River and N. W'ly by Oswegatchie River	2½

MACOMB'S PURCHASE.

Great Tract 2.

Township 1, "*Sherwood.*"

North East ¼.

Town and lot. **Area in acres.**

Colton :

S. W. P't (flowed lands)...................... 4,777

North West ¼.

Ex. 2,733⅓ a. N. P't of the E. ½ thereof........ 5,733⅓

Township 2, "*Oakham.*"

South West ¼.

Hopkinton:

Ex. 1,500 a. und. paid by H. N. Redway, or Isaac Ellis, und. 2,000 a. paid by Geo. B. Burnham and und. 3185 a. paid by David Rice........ 1,885

Township 4, "*Harewood.*"

Colton:

S. E. ¼, Ex. 5,250 a. N. P't thereof and $1954\frac{92}{100}$ a. being all that remains of 2,355 a. S. E. cor. after reserving therefrom $319\frac{6}{10}$ a. Cranberry Lake and the flowed lands around the same, as per map on file in the Comptroller's office, and $80\frac{48}{100}$ a. b'd beg. at the junction of the W. line of the S. E. ¼ of Township with the N. bank of the Oswegatchie River, th. N. 2° 45′ E. along said line 25 c. 49 l., th. S. 88° E. 19 c. 72 l., th. S. 2° W. 40 c., th. N. 89° W. 20 c. 35 l. to the W. line of the S. E. ¼ of Township and th. N. 2° 45′ E. along said line 14 c. 85 l. to beg..... $1,115\frac{888}{1000}$

Township 5, "*Jamestown.*"

N. E. cor. 1 mile square...................... 640

1. On N. line of Township, 1 mile W. of N. E. cor. thereof.............................. 640

2 and 3. Pratt Lot, on N. line of Township, 2 miles W. of N. E. cor. thereof, 1 mile N. and S. and 2 miles E. and W......................... 1,280

4. 1 mile square, on E. line of Township, 1 mile S. of N. E. cor. thereof........................ 640

.... 200

5. 1 mile square, 1 mile W. of E. line and 1 mile S. of N. line of Township.................. 640

6. 1 mile square, 2 miles W. of E. line, and 1 mile S. of N. line of Township.............. 640

Township 7, "*Granshue.*"

Town and lot.	Area in acres.
N. P't 20, 550. Ex. 3,218 a. Lot 1, 3,274 a. Lot 2, 3,211 a. Lot 3, 3,211 a. Lot 4, 3,194 a. Lot 5 and 3,075 a. Lot 6	1,372
S. P't	9,092

Township 8, "*Hollywood.*"

30.	544
34.	582
35.	641
36.	679

Township 9, "*Kildare.*"

Hopkinton:	
6.	610
7.	610
9. Und. ⅙ heretofore p'd by Sarah S. Wood	101⅔
14.	610
15.	610
23.	610
24.	610
40.	610
47.	610

Township 11, "*Wick.*"

Parishville:	
4. E. side	160
5. W. side	267
11. W. side	265
13. S. W. cor. (S. and W. of road)	38

GREAT TRACT 3.

Township 11.

Brodie Tract.

Pitcairn:	
139.	148

Township 15.

Fine:	
S. ½, ex. 8,266 a. S. E. P't and 2,312 a. W. P't thereof.	4,202

NORFOLK VILLAGE.

Norfolk:	
77. Sub. 23 P't beg. above Bridge Forge Lot No. 1, at S'ly cor. of the stone abutment at N. end of Bridge, th. S. 51° E. 1 c. 38 l., th. S. 56° 50′ E. 1 c., th. S. 33° 30′ W. 1. c. 38 l. to the River shore and th. in a right line to beg.	$\frac{15}{100}$

OGDENSBURG CITY.

Block 182.

Town and lot.	Area in acres.
Oswegatchie:	
11.	

Block 206.

1.	
2.	
3.	
4.	
7.	
8.	
9.	
10.	
11.	
12.	
15.	

Block 208.

10.	

Block 418.

All

Block 419.

All

Block 423.

All

ST. REGIS RESERVATION.

Indian Meadows along Grass River.

Massena:	
5.	$1\frac{85}{100}$
8.	$\frac{45}{100}$
9.	$\frac{84}{100}$
11.	$\frac{76}{100}$
12.	$4\frac{72}{100}$
19.	$\frac{12}{100}$
20.	$\frac{18}{100}$
21.	$\frac{12}{100}$
22.	$\frac{20}{100}$
23.	$\frac{21}{100}$
24.	$\frac{30}{100}$
25.	$\frac{24}{100}$
30.	4
31.	2

St. Regis Reservation — continued.

Town and lot.	Area in acres.
36.	$1\frac{3}{4}$
38.	$4\frac{35}{100}$
39.	1
40.	$1\frac{85}{100}$
41.	$1\frac{63}{100}$
45.	$1\frac{15}{100}$
46.	$\frac{35}{100}$
47.	$1\frac{1}{2}$
50.	$\frac{61}{100}$
52.	$2\frac{93}{100}$
53.	15

WARREN COUNTY.

LIST OF LANDS BELONGING TO THE STATE.

Total number of acres, 19,045.900.

DETAILED STATEMENT.

BRANT LAKE TRACT.

Town and lot.	Area in acres
Hague:	
16.	160
17.	160
18.	160
19.	160
22.	160
23.	160
24.	160
Horicon:	
107. Ex. und. ½ paid by A. Crandall (part water), bonded when bid in	80
141. S. E. cor	20

DARTMOUTH PATENT.

GREAT TRACT.

Range 4.

Stony Creek:	
5.	234

Range 6.

Thurman:	
5.	234
6.	234

Range 8.

7. N. W. cor	170

UPPER RIVER DIVISION.

Town and lot.	Area in acres.
Stony Creek:	
5. W. ½	50
6. Same	45

ELLIS PATENT.

Hague:	
248.	102
257.	94

GARLAND'S (PETER) PATENT.

Bolton:	
3.	167

GORE BETWEEN THURMAN'S ROAD PATENT AND HOFFMAN TOWNSHIP.

Chester:	
N. E. end	92

HAGUE TRACT.

Hague:	
50.	150
54.	180
57.	184
58.	184

Hoffman Township.

Chester:	
93. S. E. cor	165

Hyde Township.

Thurman:	
17. N. W. cor	50

JESSUP'S PATENT.

7,550 a. Tract.

Luzerne:	
8. B'd N. and S. by lot lines, and W. by Hudson river	121
12. E. P't, b'd W. by Goodness	96

LUZERNE TRACT.

Caldwell:	
66.	127

McDONALD'S (NEIL) PATENT.

Bolton:	
10. S'ly P't	80

NORTH WEST BAY TRACT.

Town and lot.	Area in acres.
40.	175
119.	182

PALMER'S PURCHASE.

REAR DIVISION.

Great Lot 1.

Stony Creek:

27.	160
34.	160

Thurman:

61.	160
63. S. E. P't, or S. or S. E. ½	80
64. W. ½	80
69. Same	80
85.	160
86.	160

Great Lot 2.

20.	$150\frac{7}{10}$
21.	$150\frac{7}{10}$
27. Ex. 53 a. W. end	$72\frac{6}{10}$
54. N. W. cor. 50 a. and S. E. cor. 25 a.	75
55.	$125\frac{6}{10}$
56.	$125\frac{6}{10}$
59. N. E. cor.	25
60.	$150\frac{7}{10}$

RIVER DIVISION.

East End.

Great Lot 1.

Stony Creek:

All in Warren Co	305

Great Lot 3.

N. E. cor., b'd N. by Middle Division, E. by Sub. 1, S. by Saratoga Co. and W. by Lot 4.	45

TONGUE MOUNTAIN TRACT.

Bolton:

6.	168

Hague:

44.	212
46.	155
48.	273
49.	270

TOTTEN AND CROSSFIELD'S PURCHASE.

Township 11.

Town and lot.	Area in acres.
Thurman:	
9. All in Thurman	29
10. Same	90
11. S. P't.	112
Johnsburgh:	
14. Ex. und. ⅓, Adirondack Co.'s land	200
15.	300
16.	300
30.	300
31.	300
32.	300
33.	300
34.	300
37. S. end	50
39.	300
40.	300
44. N. end	150
45. Same	150
46. Same	98
56.	300
59.	300

Township 13.

3.	235
10.	258
11.	241
12.	231
22.	130
49.	160
101.	198
116.	171
121.	136
122.	152
123.	154
124.	180
125.	150
140.	134
141.	139
142.	118
143.	150
144.	127

Township 14.

Town and lot.	Area in acres.
North ½ and South East ¼, Residue of Township.	
50.	160
51.	160
99. S. W. cor.	33
SOUTH WEST ¼, CONKLIN AND OTHERS' TRACT.	
Johnsburgh:	
1.	178
2.	150
3.	112
4.	150
5.	150
6.	150
7.	150
9.	150
11.	115
12.	178
16.	150
18.	150
19.	150
22.	112
24.	178
25.	178
26.	150
27.	112

Township 24.

Chester:	
18. N. P't.	300
25.	420
29. Sub. 12, N. E. P't.	16
33. S. P't.	100
38. S. W. cor., 35 c. N. and S. and 20 c. E. and W.	70

WARRENSBURGH TRACT.

Warrensburgh:	
3.	201

APPENDIX C.

LIST OF STATE LANDS

ACQUIRED BY SALE OF 1881.

CLINTON COUNTY.

STATE LANDS. — TITLE FROM 1881 TAX SALE.

Total number of acres 11,402.78.

DETAILED STATEMENT.

DUERVILLE PATENT.

Town and lot.	Area in acres
Altona:	
21.	250
Dannemora:	
26. E. P't, 175 a. b'd W. by Wm. Vear's 41⅓ a. and T. Defon's or Lafere's 33⅔ a. ex. 91 a. E. part thereof	84
Beekmantown:	
29. E. end, 95 a. ex. 52 a. S. P't, and 19¼ a. being all 95 a. E. end of lot in S. ½ of N. E. ¼, 23¾ a. ex. 4½ a. S. end thereof	23¾
58. Ex. 25 a. S. E. cor	225
Altona:	
76. S. W. ¼	62½
Beekmantown:	
80. N. W. ¼	62^{1}

GORES.

STATE GORE BETWEEN OLD MILITARY AND REFUGEE TRACTS.

Town and lot.	Area in acres.
Dannemora:	
65. Und. ½, heretofore paid by J. M. Davison	$38\frac{11}{100}$

Hockstrosser Lot.

B'd N. by lots 62 and 63 of the Gore between Old Military and Refugee Tracts, E. by lots 231 and 233 Refugee Tract, S. by lot 5 Pion Patent and W. by lots 64 and 65 of Gore aforesaid	500

LIVINGSTON PATENT.

Division 5, *Hart Tract.*

Peru:	
2.	75¼
3.	75¼

Division 8, *Slocum Tract.*

Black Brook:	
19.	100

MAUL'S PATENT.

Ausable:	
196. B'd N. and E. by land formerly of Earl Pierce, S. by Ausable river and W. by School House Lot and lands sold in 1841 by Martin Pope to Hugh McClerkin	16

OLD MILITARY TRACT.

Township 3.

Black Brook:	
17. Sub. 4	85
24. Ex. 145 a. b'd N. 43 c. 25 l. by a line running S. 89° E. from a point on the W'ly line of lot 29 c. 10 l. N. from the centre of the Port Kent and Hopkinton turnpike to the Saranac River, E'ly by said river, S. 2 c. by a line par'l with the N. line of lot, and W. 71 c. 10 l. by lot line.	708
26 N. E. cor., square	113
72. S. E. cor., 125 a., b'd N. by S. line of Moses Perry's land and by a continuation E. of said S. line to E. line of lot, and W. by John Musgrove's 50 a., ex. 10 a. S. E. cor. thereof.	115

Township 4.

10. Sub. 2	100
10. Sub. 7	100

Township 4 — continued.

Town and lot.	Area in acres.
Saranac:	
48. B'd N. by J. Farrell, E. by Hanlon, S. by lot line, and W. by Caffee	17
88. N. ½	320

Township 6.

Town and lot.	Area in acres.
Clinton:	
34. N. W. cor., 94 r. wide N. and S., and 120 r. long E. and W.	70
48. On N. line 118 r. W. from N. E. cor., 20 r. long N. and S., and 9½ r. wide E. and W.	$1\frac{3}{16}$
51. On W. line 160 r. N. from S. W. cor., 100 r. wide N. and S., and 106 r. long E. and W.	66
51. Sixty r. E. from W. line and 18 r. S. from centre line of lot, 142 r. long N. and S., and 38 r. wide E. and W.	33
55. S. W. cor., 220 r. wide N. and S. and 320 r. long E. and W., 440 a., ex. 340 a. S. P't thereof, b'd N. by line par'l with and 152 r. S. from N. line of lot	100

PION PATENT.

Town and lot.	Area in acres.
Saranac:	
4. B'd N. by centre, E. by Douglass, S. by line, and W. by J. Dwyre	25

REFUGEE TRACT.

420 a. Lots.

Town and lot.	Area in acres.
Altona:	
87.	420
161.	420
185. All S. of turnpike, of 70 a. E. side of lot	46
191. E. ½	210
223. N. P't of N. E. ¼	51
223. S. P't of 51 a. N. P't of E. ¼	25½
Plattsburgh:	
251. At Cadyville, owned by James Norcross, b'd N. by centre of plankroad, E. by Mike Sullivan, and S. and W. by Basil David, and being 2 c. 62 l. wide N. and S., and 3 c. 17 l. long E. and W	$\frac{83}{100}$
251. Sub. 1, in the N. E. cor. of lot, 12 r. wide E. and W., b'd S. by the centre of the highway leading in 1848 from Cadyville to Saranac, and W. by a line par'l to E. line of lot	4½

ESSEX COUNTY.

Total number of acres 24,994.76.

DETAILED STATEMENT.

ESSEX TRACT, HENRY SURVEY.

Town and lot.	Area in acres
Jay:	
142.	176
168.	160
Keene:	
181.	160
185.	172
222.	160

Hoffman Township.

Town and lot.	Area in acres
Schroon:	
1. Ex. 100 a. S. W. cor.	150
1. S. W. cor., 100 a. ex. S. W. ¼ of lot.	37½
3. Ex. und. ⅕ p'd by T. E. Davis and und. ⅕ p'd by E. O'Comar	150
5. Und. ½ formerly paid by Finch, Pruyn and Co.	125
9. Ex. 10 a., being S. W. cor. 89 a. ex. 79 a. S. W. cor. thereof	240
10.	250
58.	250
74. E. ½ ex. 75 a. N. P't thereof	50
81. All in Scroon	125
93. S. W. P't.	120
Minerva:	
94. N. ⅓ ex. 45 a. W. P't and 35 a. N. P't of rem.	45

IRON ORE TRACT.

Town and lot.	Area in acres.
Elizabethtown:	
77. Ex. und ⅓ p'd by Albany and Rensselaer Iron and Steel Co	106⅔
78. S. ½	72
80.	110
105. All W. of Highway	19
105. Ex. 236 a. E. P't and 19 a W. of Highway	19
106.	31
205. S. E. ¼ ex. und. ¼ thereof paid by Hartwell	30¾
218.	50
221.	115

JAY TRACT.

Wilmington:	
29.	429

MAUL'S PATENT.

Chesterfield:	
106. N. ½	100

NORTH RIVER HEAD TRACT.

North Hudson:	
44.	160
83. All in North Hudson	80

OLD MILITARY TRACT.

Townships 1 *and* 2, *Richards' Survey.*

Keene:	
51. All in Keene	416
52. Same	514¾
Wilmington:	
54. E. ½ of W. ½	167

Township 11.

St. Armand:	
45. N. ½ and S. E. ¼	120
North Elba:	
78. S. W. ¼	40¾
114. N. W. ¼	40
136. Same	30
137. S. ½ and N. E. ¼	150
138. N. ½	80
139. N. E. ¼ and S. W. ¼	80

Township 11 — *continued.*

Town and lot.	Area in acres.
175. N. E. ¼	40
177. W. ½	50
St. Armand:	
181. W. side 35 c. wide, 105 a., ex. 100 a. W. side thereof	5
185. N. E. ¼	75
North Elba:	
198. Und. ⅔ of S. E. ¼ heretofore p'd by Amanda Lyon	32½
253. S. W. ¼	40
St. Armand:	
324.	160

Township 12, *Richards' Survey.*

Town and lot.	Area in acres.
North Elba:	
2. Sub. 1, ex. N. W. ¼	123
10. Sub. 3, ex. und. ⅙ p'd by David Jones, und. ⅙ p'd by Chas. N. Williams and und. $\frac{3}{12}$ p'd by Oliver Abel	82$\frac{1}{12}$
10. Sub. 4, ex. und. ⅙ p'd by David Jones, und. ⅙ p'd by Chas. N. Williams, und. $\frac{3}{12}$ p'd by Oliver Abel and und. ⅙ p'd by Chas. H. Faxon,	44½
32. N. ½, ex. S. E. ¼ of N. W. ¼	275$\frac{3}{16}$
33. N. E. ¼ of N. E ¼	38⅞

Thorn's Survey.

Town and lot.	Area in acres.
North Elba:	
5. S. E. ¼	40
6. Same	40
11. N. E. ¼ and S. W. ¼	80
21. N. E. ¼	40
28. N. E. ¼	40
31. N. ½	80
48. Ex. N. E. ¼	120
55. S. W. ¼	40
62. S. E. ¼	40
66. N. W. ¼	40
69. S. W. ¼	40
83. Same	40
120. W. ½	80
121. N. W. ¼	40
127.	160
128.	160
132. S. E. ¼	40
140. N. W. ¼	40
141. S. E. ¼	40
142. Same	40

PARADOX TRACT.

Town and lot.	Area in acres.
Ticonderoga:	
22.	164
23.	164
25.	164
North Hudson:	
399.	12
419.	138$\frac{4}{10}$
Moriah:	
422.	138$\frac{4}{10}$
423.	138$\frac{4}{10}$

ROARING BROOK TRACT.

Elizabethtown:	
5. All in Elizabethtown, 106 a., ex. 100 a. E. P't thereof	6
27.	281
28. All in Elizabethtown, 131 a. ex. 100 a. E. P't thereof	31
Keene:	
38.	284
Elizabethtown:	
42. All in Elizabethtown, 134 a. ex. 100 a. E. P't thereof	34
43.	284

TOTTEN AND CROSSFIELD'S PURCHASE.

Township 14, *Pond's Survey.*

North $\frac{1}{2}$ and South East $\frac{1}{4}$.

Minerva:	
6.	160
19.	160
62.	168
77.	166
81.	160
87.	160
88.	160
93.	160
101.	160
102.	240
103.	198
104.	132

Township 16.

Town and lot.	Area in acres.
16. N. E. ¼	250
17. Same	250
21. Ex. und. ½ p'd by Julia A. Kent	500
24. W. ½	500

Township 25.

BAILEY'S PATENT.

Town and lot.	Area in acres.
30.	117
64.	100
69.	100
71.	122
72.	100
73.	100
78.	100

Thorn's Survey.

Town and lot.	Area in acres.
2.	97
3.	98
4.	130
6.	105
7.	90
8.	90
9.	120
10.	120
11.	140
12.	120
13.	120
14.	160
17.	120
19.	160
21. Ore Bed Lot	140
25.	160
29. Ex. 24 a. S. E. cor., 8 c. wide N. and S. and 30 c. long E. and W.	136
30. Ex. 36 a. S. P't., 9 c. wide N. and S. and 40 c. long E. and W	124
31.	140

Township 26.

Town and lot.	Area in acres.
15.	200
16.	200
17.	200
33.	160
36. E. P't	92
49. Ex. 75 a. W'ly P't	165
71.	200

Township 26 — *continued.*

Town and lot.	Area in acres.
76.	244
96. Ex. 73½ a. S. W. cor.; 30½ c. long N. and S. and 24 c. wide E. and W.	209½
96. S. W. cor. 30½ c. long N. and S., and 24 c. wide E. and W.	73½
103. All of 162 a. W. P't contained in 25 a. S. P't of 75 a. N. P't. of lot	17½
103. All of 162 a. W. P't. contained in 25 a. S. P't of 100 a. N. P't of lot	17½
105. N. W. P't	50
106. S. P't	76
109. All not previously owned by State	111
110. S. P't	36
114. E. ½	118
117. S. P't	100

Township 27, *Richard's Survey.*

Newcomb:

33.	160
35.	160

Township 45.

Keene:

38. All in Keene	480
39. All in Keene of 100 a. S. E. cor. of lot	40

Township 49.

North Hudson:

12. Ex. 250 a. N. E. cor. and 253 a. S. E. cor	547

Township 50.

Newcomb:

60 and 61. All in Newcomb	190
65. Same	131
91.	85
107. Ex. 50 a. S. W. cor	89

TRACT WEST OF ROAD PATENT.

North Hudson:

7.	68½
33.	168$\frac{4}{10}$
34.	160
36.	160
37.	160
40.	160
54.	160

Tract west of Road Patent — continued.

Town and lot.	Area in acres
Schroon:	
73.	160
74.	160
75.	160
82.	160
91.	$116\frac{1}{10}$
93.	120
101.	160
105.	115
113. Und. $\frac{1}{2}$ heretofore p'd by R. Seaman	60
117.	160
134. Ex. und. $\frac{1}{10}$ p'd by T. E. Davies for 1875, formerly p'd by A. Smith and und. $\frac{1}{10}$ p'd by E. O. Comar	$145\frac{92}{100}$
138.	96
139.	$50\frac{8}{10}$
141.	83
142.	$74\frac{8}{10}$
147.	$86\frac{1}{2}$
148.	160
Minerva:	
149.	157
151.	141
152.	182
156.	144
163.	167
166.	167

TREMBLEAU TRACT.

Chesterfield:	
15. E. P't	50

FRANKLIN COUNTY.

Total number of acres 9, 884.75.

DETAILED STATEMENT.

GORE EAST OF TOWNSHIP 9, OLD MILITARY TRACT 1.

Town and lot.	Area in acres.
Bellmont:	
9.	122

MACOMB'S PURCHASE.

GREAT TRACT 1.

Township 11.

Brandon:	
1. Sub. 2	48

Township 12.

Duane:	
4. B'd N. by Widow Berrey's land and N. E. cor. of lot, or line par'l to S. line of lot, E. and W. by lot lines and S. by Mordecai Ladd's lands	199
9.	619
12. B'd N. by E. or E. M. Ladd's land, E. by M. or E. M. Ladd's land, S. by H. and J. Kerry's land and W. by lot line	63
23. Sub. 3	115
25. Ex. 100 a. N. E. cor.	560
36. S. W. cor.	100

Township 14.

South ½ and North East ¼, Nathan Ward's Subdivision.

Brandon:	
11. S. ¼	33
12. S. ½ of N. W. ¼	35½
14. N. ¼	38

Township 14 — *continued.*

Town and lot.	**Area in acres.**
16. N. ½ of S. ⅖	35 2/10
36. W. ½, ex. N. ⅕ and S. ⅕ thereof	42⅕
44. N. ¼	40¾
59. N. ⅖	80
72. N. ½ of S. ⅖	42 2/10
74. Same	36 2/10
108. N. ⅕	36

Township 15.

North East ¼.

Duane:

4. E. P't	345
11.	469

North West ¼.

4.	119
7.	163½
14.	163
16.	117

South West ¼.

Brighton:

42. W. ½	50
75.	103

Township 23.

South East ¼.

Brandon:

E. end of 1,240 a. S. end	300

South West ¼.

N. E. cor. 80 c., long N. and S. and 49 55/100 c., wide E. and W.	396

Township 27.

North West ¼.

Harriettstown:

Lot 1, 390 ½ a. and W. ½ of lot 3, 195¼ a. in 1,561 a. W. end of 1,961 a. N. P't	585¾

OLD MILITARY TRACT.

Township 8.

Bellmont:

85. All not contained in 250 a. S. E. cor. square, of all ex. 240 a. N. W. cor.	390
87. E ½	320

Township 9.

Town and lot.	Area in acres.
81. N. E. ¼	40
Franklin:	
102. N. ⅓ of W. 120 a.	40
186. N. E. ¼	45
191. S. E. ¼	40
206. W. P't in Tanner's Pond	60
213. N. ½, and S. W. ¼	120
255.	175
Bellmont:	
273.	160
274.	160
Franklin:	
295.	200
Bellmont:	
305. Ex. 25 a. N. W. cor.	135
309. S. W. ¼	40
341. E. ½	80
342.	85
343.	107
346. Ex. 40 a. N. E. cor. 20 c. square and 80 a. S. P't b'd N. by a line par'l to S. line	$79\frac{2}{10}$
Franklin:	
350. B'd beg. in S. W. cor. of lot, th. N. 20 c., th. N. 50° E. 22 c., 33 l., th. S. 40° E. 30 c., th. S. 50° W. 8 c., 33 l., to S. line of lot and th. W. on S. line to beg.	69¼
354.	$220\frac{6}{10}$
356. S. W. ¼	$42\frac{65}{100}$

Township 10.

83. W. P't	108
88.	168
116.	200
153.	200
191.	200
195. S. ½ of 80 a. E. P't	40
212.	200
285 N. W. ¼	50
290. Ex. S. ⅓ of N. W ¼ 16⅔ a. and 43⅓ a. being so much of the S. E. ¼ as is not contained in S. ⅓ of W. 120 a.	140
323. N. ½	100

FULTON COUNTY.

Total number of acres 2, 737.12.

DETAILED STATEMENT.

CHASE'S PATENT.

Town and lot.	Area in acres.
Bleecker:	
41.	100
42.	100
44. W. P't.	50
52. E. P't.	50
56.	100
69.	100
Mayfield:	
101. All in Mayfield.	10
Bleecker:	
103. All in Bleecker	15

GLEN, BLEECKER AND LANSING PATENT.

Mayfield:	
4. Sub. 2	99
11. Sub. 3	105
11. Sub. 4	105
11. Sub. 7	100
11. Sub. 9	105
11. Sub. 11	100
11. Sub. 12	100
Bleecker:	
15. Sub. 1	125
Mayfield:	
16. Sub. 1	100

Glen, etc., Patent — continued.

Town and lot.	Area in acres.
Bleecker:	
33. E. P't	100
43. Sub. 3 ex. 74¼ a. E. P't	24¾
43. Sub. 4 ex. 109¾ a. E. P't	36¼
43. Sub, 8, ex, 74¼ a. E. P't	24¾

JERSEYFIELD PATENT.

Stratford.	
32. Sub 5. E. P't of W. ½	123
66. S. E. ¼	250
90. N. W. cor. 200 a. ex. 160 a. N. W. cor. thereof.	40

LOTT AND LOW'S PATENT.

Caroga:	
11. Sub. 2, N. P't b'd N. by Mann E. and W. by lot lines and S. by stone	34
11. Sub. 3. S. P't 120 a. ex. 80⅛ a. S. P't thereof b'd N. by I. T. Hudson	39⅞
Stratford:	
29. S. W. cor	40

MAYFIELD PATENT.

Bleecker:	
53.	100
54.	130
55. W. P't in Bleecker	38
66. All in Bleecker	11½
67. All in Bleecker, 42 a. ex. 30 a. W. P't thereof	12
67. W. P't in Bleecker	30
91. S. P't	33
Caroga:	
100. S. E. cor	96
102. S. E. ¼	50
103. N. end	60

HAMILTON COUNTY.

Total number of acres 93, 316.91.

DETAILED STATEMENT.

ARTHURBORO PATENT. TIFFT (J. G.) TRACT.

Town and lot	Area in acres
Morehouse:	
2. E. P't	100

Benson Township.

Town and lot	Area in acres
Benson:	
10. S ½	80
19. N. P't	150
Arietta:	
27.	160
30.	214
32.	160
33.	160
34.	160
Benson:	
42.	160
44.	160
63. W. ½	80
84. All in Benson	80
Arietta:	
84. All in Arietta	80
87.	160
88.	160
Benson:	
95. All in Benson	80
Arietta:	
95. All in Arietta	80

Benson Township — continued.

Town and lot.	Area in acres.
Benson:	
97.	160
118. Ex. 30 a. S. E. cor. square	212
137.	160
152.	160
153.	160
154.	160
169.	154
182.	160
183.	160
196. All in Benson	80
Arietta:	
196. All in Arietta	80
Benson:	
211.	160
213.	160
215.	160
226.	160
227.	160
228. S. W. cor	25
229.	160
243.	160
261.	160
267.	160
272.	160
273. E. side	40
274.	160
275.	160
276.	160
281.	160
285.	160
286.	160
288.	160
295.	160
305.	160
308.	160
310.	160
311.	160
317.	160
318.	160
319.	160
324. Ex. 25 a. N. E. cor. square	135
Wells:	
334.	160
335.	160

Benson Township — continued.

Town and lot.	Area in acres
337.	160
340.	160
341.	160
344.	160
347.	160
350.	160
374. N. W. cor.	90

BERGEN'S PURCHASE.

PATENT No. 2.

All S. of W. branch of Sacandaga river, 410 a. ex. 50 a. N. W. cor. thereof, resident land of Seth Pratt; 25 a. b'd beg. at a beech tree at S. W. cor. of lands of Elias Kellogg, th. N. $62\frac{1}{2}^\circ$ E. 13 c. 50 l. to th. West river, th. S. $27\frac{1}{2}^\circ$ E. 18 c. 52 l. to a maple sapling, th. S. $62\frac{1}{2}^\circ$ W. 13 c. 50 l. to a stake and th. N. $27\frac{1}{2}^\circ$ W. 18 c. 52 l. to beg.; 150 a. on W'ly line of Patent, 19 c. from S. W. cor. thereof, 41 c. wide N. and S'ly, b'd N. E'ly by the Vorse Creek branch of Sacandaga river and being 20 c. long on N'ly line and 67 c. on S'ly line; 50 a. on S'ly line of Patent, 57 c. E'ly from S. W. cor. thereof, 20 c. wide N'ly and S'ly, b'd N. E'ly by W. branch of Sacandaga river and being 10 c. long on N'ly line and 39 c. on S'ly line and 66 a. b'd N. E'ly by W. branch of Sacandaga river, S'ly by Vorse Creek and S. W'ly by $25\frac{8}{10}$ a. of E. Kellogg and N. W'ly by land of Seth Brott and E. Kellogg	69

PATENT No. 7.

1, 2, 3 and 4. Sub. 4, Calvin Osborn lot, b'd N. by W. G. Lobdell's lot, E. by lot 9, S. by lands of R. G. Ostrander and W. by Sacandaga river	100
1, 2, 3 and 4. Sub. 9, b'd N. by Sub. 8, S. by Patent line and W. by Calvin Osborn's lot	100

CHASE'S PATENT.

Benson:

91. E. P't, in Benson	15
104. All in Benson	50

GLEN, BLEECKER AND LANSING PATENT.

7. S. P't	666

LAWRENCE PATENT

Town and lot.	Area in acres.
Arietta:	
2.	635
Morehouse:	
9. All of 70 a. square, in N. W. cor. of lot, contained in 157 a. all in Morehouse	55$\frac{4}{10}$
Arietta:	
25.	635
29.	635
43. Ex. 100 a. E. side and 100 a. S. W. cor.	435
Morehouse:	
46. Ex. 157 a. W. P't	618

MOOSE RIVER TRACT.

Township 3.

65. All in Morehouse 80 a. ex. und. ⅔ p'd by P. J. Munn	26⅔
79. Ex. und. ⅔ heretofore p'd by Est. of P. J. Munn.	56
91. Same	56
103. Same	56

Township 4.

32. Ex. und. ¼, p'd by T. S. Gold	120
33. Same	120
34. Same	120
39. Same	120
40. Same	120
41. Same	120
64. Ex. und. ¼ of E. ½ p'd by T. S. Gold	186⅜
65. Same	186⅜
66. Same	186⅜
79.	213
83. Ex. und. ⅔ p'd by Est. of P. J. Munn	71
84. Same	71
87. Ex. und. ⅓ p'd by C. L. Benedict	142
88. Rem. water, ex. und. ⅓ p'd by C. L. Benedict	113⅓
97. Ex. und. ⅔ p'd by Est. of P. J. Munn	71
98. Ex. und. ⅔ p'd by Est. of P. J. Munn, and und. ⅓ of W. ¾ p'd by C. L. Benedict	17¾
99. Ex. und. ⅔ p'd by Est. of P. J. Munn	71
104. Ex. und. ⅔ p'd by Est. of P. J. Munn, and und. ⅓ of N. ½ p'd by C. L. Benedict	35½

Township 4 — continued.

Town and lot.	Area in acres.
105. Ex. und. ⅔ p'd by Est. of P. J. Munn	71
106. Same	71
107. Ex. und. ⅔ p'd by Est. of P. J. Munn, and und. ⅓ of E. ½ p'd by C. L. Benedict	35½

Township 9.

Town and lot.	Area in acres.
Arietta:	
3. N. E. P't	25
144. Ex. 200 a. N. P't	70
Lake Pleasant:	
149. S. E. cor. of E. ½	75
150. W'ly ½ of 100 a. N., or N. W. P't	50

OXBOW TRACT.

Town and lot.	Area in acres.
13. Ex. $50\frac{6}{10}$ a. N. W. cor., 22 c. square	$269\frac{4}{10}$
Wells:	
32. All in Wells	42
Arietta:	
40.	309
41.	309
43.	154
44. Ex. 25 a. N. E. cor	130
50. All in Arietta	40
Wells:	
50. All in Wells	115
52. All in Wells	100
Lake Pleasant:	
53. All in Lake Pleasant	130
Wells:	
53. All in Wells	25
Arietta:	
68.	154
76.	154
110.	154
111.	154
128. P't water	154
129.	154
130.	154
131.	154
144.	154
191.	154
245.	154

Oxbow Tract — continued.

Town and lot.	Area in acres.
248.	137
250.	155
269.	179
292.	233

PALMER'S PURCHASE.

GENERAL ALLOTMENT.

Wells:

1. Sub. 2	100
5. N. W. cor. of, all in Wells	200
5. All in Wells, ex. 200 a. N. W. cor., and 200 a. Sub.'s 8 and 9	350
8. Sub. 1	100
8. Sub. 3	100
19. All in Wells	50

REAR DIVISION; LEFFERT'S TRACT.

North ½.

Range 3.

7.	100
8.	100

TOTTEN & CROSSFIELD'S PURCHASE.

Township 1.

South East ¼.

VAN WAGONER TRACT.

Allotment 3.

7.	68
9.	80
10.	80
12.	145

South West ¼.

3.	193
4.	204
5. W. ½	142½
6.	326½
18.	227
19.	279
20.	329

Township 2.

Jones' Map.

Town and lot.	Area in acres.
Lake Pleasant:	
10. N. W. cor.	91
11. Ex. 50 a. N. end	219
32 Ex. 100 a. S'ly side, R. R. land	169
33. Ex. 85 a. S. P't	184

Township 3.

Arietta:	
1. N. E. ¼	37½
21. S. ½, Ex. 25 a. E. end thereof	50
40. All in Arietta	75
Lake Pleasant:	
40. All in Lake Pleasant	75
Arietta:	
43. Ex. 30 a. N. W. cor., square	120
46. S. W. ¼	37½
48.	150
Lake Pleasant:	
55. S. W. ¼	37½
78. N. E. ¼	37½
Arietta:	
86. W. end of S. ½	5
95. S. W. ¼	37½
Lake Pleasant:	
96. All in Lake Pleasant, ex. 38 a. S. E. cor. thereof.	32
Arietta:	
104. Ex. 15 a. S. W. cor., sq	135
105. Same	135
106. Ex. 20 a. S. E. cor., sq	130
107. N. E. ¼, and W. ½, ex. 10 a. S. end thereof	102½
110. Ex. 20 a. N. E. cor., sq	130
111. Ex. 20 a. S. E. cor., sq	130
112. E. ½ and N. W. ¼, ex. 10 a. N. W. cor., sq	102½
113. Ex. 10 a. N. E. cor., sq	140
116. Ex. 10 a. N. W. cor., sq	140
117. Ex. 10 a. N. E. cor., sq	140
118. Ex. 20 a. N. W. cor., sq	130
123. All in Arietta, 75 a. ex. 1 a. S'ly end thereof	74
125. Ex. 15 a. S. W. cor., sq	135
131. N. W. ¼, and S. E. ¼ ex. 2 a. N. W. cor., sq	73
132. Ex. 10 a. N. E. cor., sq	65
133. Ex. 15 a. N. E. cor., sq	285

Township 5.

Town and lot.	Area in acres.
Morehouse:	
All in Morehouse of 1,000 a. und. in N. E. ¼ of Township heretofore p'd by J. W. and J. R. Van Alstyne	808
All of E. ½ in Morehouse, 6,903 a. ex. 808 a. as above and ex. 640 a., Gospel, School and Literature lands	5,455
All of W. ½ in Morehouse 11,745 a. ex. 947 a., being so much of lot 4, Nivens Tract, as is in said town, and 640 a. Gospel, School and Literature lands	9,650¾

Township 6.

Lake Pleasant:	
24. All in Lake Pleasant	89
30. Same	150
31. Same	150

Township 7.

All of N'ly ¼ and S'ly ½ in Lake Pleasant, ex. 1,150 a. all of W. ½ of N. ¼ in Lake Pleasant; 2,100½ a. S. P't of S. E. ¼, $87\frac{52}{100}$ c. wide N. and S.; 750 a. N. Pt. of S. W. ¼, 31¼ c. wide N. and S.; and 1,575 a. N'ly ½ of N. E. ¼; ex. und. ½ of all thereof, formerly Adirondack Co. lands	4,874¾
Lots 8, 9, and 10 in a tract of 1,000 a. E'ly end of S'ly ½ of N'ly ½ of Township	300

Township 8.

North ½.

5.	260
6.	260
7. S. end	50
9. Und. rem. Adirondack Co. lands	30
11. Same	30
12. Same	30
46. Same	25

South East ¼.

2.	125
3.	125
6.	125
7.	125

South West ¼.

Town and lot.		Area in acres.
	SUCKLEY TRACT.	
	Being what remains of S. W. ¼ of Township after ex. 2,500 a. S. W. cor. thereof and 320 a., being so much of the Literature lot as is contained therein	3,480
	Townships 10 and 29.	
Wells:		
10.	Ex. 450 a. N'ly end and 450 a. S'ly end	143
10.	S'ly end	450
	Township 19.	
Indian Lake:		
	N. E. ¼, ex. 4,959 a. E. P't thereof and 320 a. Gospel and School lands	1,021
	E. P't of N. E. ¼ 1,325 a. and N. W. ¼ ex. 320 a. Gospel, School and Literature lands	7,305
	Township 21.	
Long Lake:		
32.	E. ½	100
44.	N. E. P't	150
123.	E. P't	100
	Township 22.	
	South ½.	
8.	S. P't	54
9.		158
64.	All N. and E. of Big Brook	149
	Township 23.	
	(Including Triangle.)	
1.	Ex. 75 a. N. E'ly end	73
	Township 32.	
Indian Lake:		
	S. E. cor., square, 5,800 a., ex. water, so much of Literature lot as is contained therein and ex. an undivided ⅔ of remainder p'd by Zenas Van Dusen and S. G. Goodman	1,811¼
	Township 33.	
	East Part of North ½, Allotted.	
28.	Und. ½, rem. Adirondack Co's land	80
	Township 34.	
	Ex. 4,000 a. S'ly end of Township; 1,280 a. Gospel, School and Literature lots; 100 a. on N.	

Town and lot.	Area in acres.
Township 34 — continued.	
side of Middle Eckford Lake, known as the Ordway place "b'd beg. at the outlet of said Lake on the N. side thereof, th. N'ly 25 c., th. E'ly 40 c., th. S'ly 25 c. to Lake shore and th. W'ly along said shore 40 c. to beg.;" and also about 6,245 a. covered by water	13,575
Township 38.	
N. E. cor., 250 a., and 1,900 a., being Lots 6, 7, 26, 38, 43, 49, 55 and 56	2,160
23.	208
Township 41.	
All in Long Lake, 21,474 a., ex. 2,583½ a. N. P't of N. E. ¼, b'd S. by a line par'l to N. line; 669 a. W. end of all that remains of N. E. ¼ after ex. 4,783 a. N. P't thereof; 3,455 a. W. end of S. E. ¼; 5,931 a. S. W. ¼; 937 a. und. (subsequently claimed by the Adirondack Co.) in that part of the N. W. ¼ lying in Hamilton Co., and not covered by the Gospel and School lots; and 420 a., being so much of Gospel and School lots as is contained in rem	7,478½
Und. 937 a. (subsequently claimed by the Adirondack Co.) in that part of the N. W. ¼ lying in Hamilton County and not covered by the Gospel and School lots, ex. und. ½ Adirondack Co.'s land	468½
W. end of N. E. ¼, after ex. 4,783 a N. P't thereof, 669 a.; W. end of S. E. ¼, 3,455 a.; and S. W. ¼, ex. 5,655 a. W. P't thereof, 276 a.; in all 4,400 a. ex. 618 a. thereof in Gospel, School and Literature lots	3,782
Township 50.	
12 and 13.	146
14 and 15.	190
37 and 38.	143
47. Rem. water	70
76. All in Long Lake	30
89. Same	25
VROOMAN'S PATENT.	
Morehouse:	
10.	200
11.	200
12. All in Morehouse	66
17. Same	66
20. Same	66
25. Same	66

HERKIMER COUNTY.

Total number of acres 11,434.89.

DETAILED STATEMENT.

JERSEYFIELD PATENT.

Town and lot.	Area in acres
Salisbury:	
3. N. E. cor. of N. W. $\frac{1}{2}$	50
Ohio:	
8. All of E. $\frac{1}{2}$ in Ohio, 586 a. ex. $249\frac{82}{100}$ a. being all therein of 250 a. N. E. cor. of lot	$336\frac{18}{100}$
Salisbury:	
24. E. $\frac{1}{2}$	525
35. S. E. $\frac{1}{4}$, ex. 50 a. S. side across, and $84\frac{7}{10}$ a. being all not covered by 50 a. S'ly side across, of a $104\frac{6}{10}$ a. parcel on S'ly line of lot, beg. 17 c. 99 l. from S. E. cor. thereof and being 44 c. 50 l. long at right angles to S. line of lot and 23 c. 60 l. wide E'ly and W'ly	$127\frac{8}{10}$
38. B'd N. by 200 a. N. end of W. $\frac{1}{2}$, E. by centre line of lot, S. by 300 a. S. p't of W. $\frac{1}{2}$ and W. by lot line	25
38. N. P't. of E. $\frac{1}{2}$ of N. E. $\frac{1}{4}$, $106\frac{1}{4}$ a. ex. 50 a. b'd. N. by 50 a. N. end thereof and S. by 25 a. S. end of E. $\frac{1}{2}$ of N. E. $\frac{1}{4}$	$56\frac{1}{4}$
38. S. $\frac{1}{2}$ of 50 a. S'ly P't. of 200 a. S. P't of W. $\frac{1}{2}$ of lot	25.
39. E. $\frac{1}{2}$	525
39. W. $\frac{1}{2}$	525
Ohio:	
40. B'd beg. S. 57° E. 45 c. 75 l. from S. W. cor., th. N. 33° E. 44 c., th. S. 57° E. 24 c. 25 l., th. S. 33° W. 44 c. and th. N. 57° W. 24 c. 25 l. to beg	107

Jerseyfield Patent — continued.

Town and lot.		Area in acres.
Salisbury:		
50.	N. P't of all in Salisbury, b'd S. by lands of Thos. E. Proctor, 153¼ a. ex. 15 a. N. E. cor. thereof	138¼
Ohio:		
42.	In S. end of E. ½ b'd. N. by lands of Augustis Christman, E. by lands of Hoxie McNeal, S. by lot 21 and W. by lands of Hugh Clark	166
52.	S. W. cor	20
Salisbury:		
57.	S. W. cor., sq., $476\frac{47}{100}$ a. and on W. line adj. aforesaid $476\frac{47}{100}$ a., sq., 15 a	$491\frac{47}{100}$
Ohio:		
82.	All in Ohio	986

NOBLEBORO PATENT.

New Survey.

Wilmurt:		
20.		200
24.		150
46.		150
49.		150
56.		150
67.		150
93.		150
95.		150
101.	Ex. 50 a. E. P't	100
103.		150
115.		150
116.	W. P't	125
117.		150
121.		150
122.		150
130.		150
131.		150
137.		150
138.		150
139.		150
141.		150
143.		150

Old Survey.

48.		300
97.		300
99.	W. end	100

REMSENBURGH PATENT.

Town and lot.		Area in acres.
12.	N. ½	250
12.	S. ½	250
52.	N. ½ of S. ⅖	100

ROYAL GRANT.

2d Allotment.

Salisbury:

90.	B'd N. by H. Ayres and E. and S. by P. Lucy, or P. Locy and W. by Doct. or G. Sweet and J. Murphy	12

4th Allotment.

Salisbury:

125.	S. W. ¼	50

VROOMAN'S PATENT.

Wilmurt:

9.	All in Wilmurt 134 a. ex. 60 a. W. end thereof.	74
12.	Same	74
13.	S. ½ of N. ½	50
17.	All in Wilmurt	134
20.	Same, 134 a. ex. 60 a. W. P't thereof	74
25.	All in Wilmurt	134
41.	All in Wilmurt 134 a. ex. 18 a. N. W. P't thereof	116

WATSON'S EAST TRIANGLE.

6.	N. W. ¼	143½
27.	Ex. 495 a. N. W. cor., and $102\frac{56}{100}$ a. being all of $194\frac{3}{100}$ a. E. side, across, not contained in 495 a. square, in N. W. cor. of lot	$96\frac{44}{100}$
29.		658

WOODHULL TRACT.

6.	Ex. 2 a. b'd beg. at S. W. cor. of lot, on S. side of Creek, th. E'ly along S. line thereof 17 c., th. N'ly $2\frac{36}{100}$ c. to S. side of Little Woodhull Creek, being a triangle, and 49 a. b'd beg. in centre of Little Woodhull Creek 17 c. E'ly from S. W. cor. thereof, th. along centre of Creek N. E'ly 70 c. to E. line of lot, being 7 c. wide, $3\frac{50}{100}$ c. on each side of the centre of said Creek	549
12.	All in Wilmurt	166

LEWIS COUNTY.

Total number of acres 3,903.87.

DETAILED STATEMENT.

BOYLSTON PURCHASE.

Township 13.

Town and lot.		Area in acres.
Osceola:		
38.	N. W. cor., b'd E. by Griffith and S. by Jackson,	62
69.	N. end	25
98.	N. W. cor., b'd E. by Hinman and Williams	120
98.	S. W. cor., b'd N. and E. by R. Stewart	62
127.		265
134.	B'd N. and S. by Driscoll, and E. and W. by lot lines	83

BRANTINGHAM TRACT.

Town and lot.		Area in acres.
Greig:		
6.		240
73.	B'd N. by W. Taylor, E. by A. Benedict, S. by Johnson and W. by Holmes	75
187.	E. side	73
188.		236
189.		$154\frac{67}{100}$
Lyonsdale:		
308.	B'd N. by Chase, E. and S. by Rogers and W. by Banning	14
Greig and Lyonsdale:		
311.	S. W. cor., b'd N. by Holcomb and E. by G. H. Brown	50

LYON'S FALLS, VILLAGE OF.

Town and lot.	Area in acres.
Block 1.	
West Turin:	
2.	¼
6.	¼
Block 2.	
3.	¼
4.	¼
7.	¼
13.	¼
Block 3.	
1.	¼
7.	¼
19.	¼
Block 4.	
3.	¼
6.	¼
10.	¼
29.	¼
30.	¼
Block 5.	
10.	¼
11.	¼
14. Ex. und. ⅔ paid Mrs. Julia L. DeCamp	½
Block 7.	
3. N. W. ½ ex. und. ½ p'd by Mrs. Julia L. De Camp.	1/16
5. Same	1/16

MACOMB'S PURCHASE.

GREAT TRACT 4.

Town and lot.	Area in acres.
Diana:	
337. Ex. 52 a. N. E'ly cor	388
338. Ex. 40 a. S. W'ly cor	400
906. S. W'ly cor. b'd N'ly by Wm. Hunt and others and E'ly by Hammond and Morse lands	50
924. B'd N'ly by lot line, E'ly by Paddock and Judson's and G. W. Leonard's land, S'ly by Paddock and Judson's land and W'ly by Wm. Leonard and Paddock's and Judson's land	66
988. B'd N'ly by lot 989, E'ly by Paddock and Judson's land, S'ly by highway, and W'ly by F. B. Ward's land	46

Great Tract 4 — *continued.*

Town and lot.		Area in acres.
990.	B'd N'ly by lot 991, E'ly by lots 337 and 338, S. by lot 989 and Wm. Seeley's land, and W'ly by Hugh's and Paul's land	290
991.	S. E. cor. b'd N'ly by La Flewis land, and W'ly by Blanchard's Est. lands	120
992.	N. E. cor., b'd S'ly by H. Mantle's land, and W'ly by Managhan's or Managan's land	170
	Triangle in Easterly End.	
1.	B'd N'ly by S. H. Beache's, E'ly by Humes, S'ly by lot 2, and W'ly by Beache's land	90
2.	B'd N'ly by lot 1, E'ly by Hume's, S'ly by Buell and Bartholomew, and W'ly by Buell and Beache's land	219

Turnpike Lots.

24.	B'd N'ly and S'ly by lot lines, E'ly Z. H. Benton's land, and W'ly Russell Turnpike	162
25.		162

Great Tract 5, *Chassinees Tract.*

Croghan:		
1977.	Range 4, W., 24. N., N. P't..	20

Great Tract 6.

Township 1.

Lewis:		
38.		257

SARATOGA COUNTY.

Total number of acres 4,687.00.

DETAILED STATEMENT.

GLEN (JOHN) AND 44 OTHERS' PATENT.

Town and lot.	Area in acres
Edinburgh:	
38. All in Edinburgh	150
Corinth:	
38. B'd N. and S. by lot lines, E. by D. Steadman or S. McCarl lot and W. by Town of Edinburgh.	63
39. All in Corinth	112
51. Same	86
Edinburgh:	
85, 86, 87 and 88. Sub. 6	100

KAYADEROSSERAS PATENT.

24th Allotment.

Great Lot 1.

Town of Corinth.

Corinth:	
2. Sub. 2, S. P't	100

Great Lot 2.

Town of Corinth.

1. Sub. 1, N. P't, b'd S. by Hewitt, Clark, Spaulding and Andrews, 900 a. ex. 200 a. S. $\frac{1}{3}$ of 600 a. N. end	700
2 or B. S. P't, 737 a. ex. 400 a. b'd N. by Chrysler lot, E. by lot line and S. by N. M. Houghton.	337

Kayaderosseras Patent — continued.

Great Lot 3.

Town of Corinth.

Town and lot.		Area in acres.
1.	Sub. A, S. P't.	30
1.	Sub. B	175
1.	Sub. C.	175
2.	Sub. 1, N. P't, b'd S. by Isaac Carpenter or D. Martin	503
2.	Sub. 2, S. P't, b'd N. by P. or T. Tiffany	90

Town of Day.

Day:		
2.	Sub. 3	75

Great Lot 4.

Corinth:		
1.	Sub. 2, ex. 160 a. S. end	311

Great Lot 6.

1.	Sub. N., N. P't	35

Great Lot 8.

2.	B'd N. by E. Holden, E. and W. by lot lines and S. by J. R. Cruse	60

PALMER'S PURCHASE.

GENERAL ALLOTMENT.

Day:		
25.	All in Day	66
26.	Same	290
27.	N. P't of all in Day	305
30.	All in Saratoga Co., ex. 500 a. S. E. cor. thereof.	509

MIDDLE DIVISION.

Great Lot 2.

WEST PART, BRUCE TRACT.

19.		141

SANDER'S PATENT.

Corinth:		
16.		100
31.		87
32.		87

ST. LAWRENCE COUNTY.

Total number of acres 1,248.42.

DETAILED STATEMENT.

LISBON TOWNSHIP.

Mile Square Lots.

Range 6.

Town and lot.	Area in acres.
Lisbon:	
4 and 5. Sub. 1	26⅓

MACOMB'S PURCHASE.

GREAT TRACT 2.

Township 1, "*Sherwood.*"

South West ¼.

Colton:	
S. W. cor.	300

Township 4, "*Harewood.*"

South East ¼.

N. P't 5,341 a. ex. 5,250 a. N. P't thereof	91

GREAT TRACT 3.

Township 3.

Middle ⅓, Harison Tract.

Pierrepont:	
8. Sub. 8	40
14. Sub. 6	53
14. Sub. 8	53

Township 9, "*Sarahsburgh.*"

Section 11.

Town and lot.		Area in acres.
Fine :		
	E. and H. Clark, Cedar Lot, b'd N. by D. Ames, E. by L. A. Brown, S. by F. or T. Holland and W. by L. Ames	7

BRODIE TRACT.

Township 11.

Pitcairn :		
119.	S. E. cor., b'd N. by James Thompson and W. by A. Harris	$83\frac{31}{100}$
119.	W. P't	$104\frac{78}{100}$
121.	W. P't, b'd E. by E. M. Luther	97
123.	E. P't, b'd W. by Martin Luther	$117\frac{41}{100}$
178.	B'd beg on W. line of lot 10 c. S. from N. W. cor. thereof, th. S. 15 c., th. E. 36 c. to Havens Tract, th. N. 15 c. and th. W. 36 c. to beg	54

Township 12.

East ½.

Fine:		
30.	B'd N. by R. Bebee, E. by Town of Clifton, S. by Kellogg's land or Colby and W. by Pitcher's land or Pickett lot	68

MORRIS TRACT.

Moss Share.

Macomb :		
60.		76

OGDENSBURGH CITY.

Block 49.

Oswegatchie :		ft.
2.		50x75

Block 431.

Whole.

19,000 ACRE TRACT.

Allotment 14.

Depeyster :		
7.		$77\frac{64}{100}$

WARREN COUNTY.

LIST OF LANDS BELONGING TO THE STATE.

Total number of acres 11,669.25

DETAILED STATEMENT.

BRANT LAKE TRACT.

Town and lot.	Area in acres.
Hague:	
25.	160
DARTMOUTH PATENT.	
Great Tract, Range 4.	
Stony Creek:	
8. S. E. cor	62½
Range 5.	
9.	234
Range 6.	
Thurman:	
7.	234
Range 8.	
6. S. ½ and N. W. ¼	176
6. N. E. ¼	58½
SMALL TRACT.	
Range 3.	
Stony Creek:	
3. S. W. ½	117
Range 4.	
4.	234
5. N. end	100

ELLIS PATENT.

Town and lot.	Area in acres.
Hague:	
105. W. P't b'd E. by J. and N. or J. S. N. Patchin.	85

GORE BETWEEN DARTMOUTH PATENT AND TOWNSHIP 11, TOTTEN AND CROSSFIELD'S PURCHASE.

Thurman:	
3.	160
4.	160
5.	160
17.	160
28.	160

GORE BETWEEN TOWNSHIPS 29 AND 31, TOTTEN AND CROSSFIELD'S PURCHASE.

Johnsburgh:	
10.	169
11.	169

GORE SOUTH OF TOWNSHIP 12.

Totten and Crossfield's Purchase, West of River.

13.	164
26.	164

HAGUE TRACT.

Hague:	
60.	184½

Hyde Township.

Thurman:	
17. On W. line 26 r. from S. W. cor., 160 r. long N. and S. and 50 r. wide E. and W	50
17. S. W. cor	50
39. Ex. 50 a. S. E. cor. and 80 a. S. W. cor	370
39. S. W. cor	80
Warrensburgh;	
64. Sub. 4	61
73. Sub. 3	89
74. Sub. 4	107
76. Sub. 3	188
78. Ex. 200 a. W. side	300
78. Ex. 326 a. E. side	174

JESSUP'S 7,550 ACRE PATENT.

Town and lot.	Area in acres.
Luzerne:	
4. Sub. 1, b'd N. and S. by lot lines, E. by Griffin and W. by Morton	100
4. Sub. 2, b'd N. and S. by lot lines, E. by Griffin heirs and W. by Sam. Ramsey	239
5. Griffin lot, b'd N. and S. by lot lines, E. by Howe and W. by Lewis lot	100

KAYADEROSSERAS PATENT.

23d Allotment.

Great Lot 5.

3. B'd N. by Perkins' lot, E'ly by Geo. Murray, S. by Murray, W. by Barker or Banker farm	50

LUZERNE TRACT.

11.	75
94. N. ½	75¼

PALMER'S PURCHASE.

GENERAL ALLOTMENT.

Stony Creek:	
11. S. E. cor	30

REAR DIVISION.

Great Lot 1.

Stony Creek:	
35.	160
37.	122
38.	160
Thurman:	
59.	160
60. All in Thurman	102
64. E. ½, (acreage as heretofore)	102
69. Same	102
70.	160

Great Lot 3.

Stony Creek:	
N. ½ of 3,150 a. S. P't	1,575

TOTTEN AND CROSSFIELD'S PURCHASE.

Township 11.

Town and lot.	Area in acres.
Johnsburgh:	
17.	300
18.	300
19.	300
20.	300
21.	300
22.	300
28.	300
29.	300
58.	300
60.	150

Township 12.

60.	166

Township 14.

North ½ and South East ¼, Pond's Survey.

Residue of Township.

106.	132

South West ¼, Leggett's Survey.

8.	150
10.	112
14.	150

Township 24.

24.	420

WASHINGTON COUNTY.

Total number of acres 310.50.

DETAILED STATEMENT.

Granville, Town of.

Town and lot.	Area in acres
Granville:	
B'd E. by Lansing Day's Est., S. by Highway and W. by A. W. Tupper	1

South Bay Tract.

Dresden:	
1.	189½
50.	120

ADDENDA.

CLINTON COUNTY.

GORES.

Livingstone Gore.

Saranac:	
22. S. E. cor. 39 a. Ex. S. Ells 3 a. in S. E. cor. 10 a. b'd N. by 10 a. owned by A. Norris E. by lot line, S. by 3 a. owned Eells, and W. by 15 a. of McMurray, and 11 a. b'd N. by Farrell, and E. by Town line, S. by Allen and W. by McMurray	15

RECAPITULATION.

LIST OF STATE LANDS

ACQUIRED BY TAX SALE OF 1881.

	Acres.
Clinton County	11,402.78
Essex County	24,994.76
Franklin County	9,884.75
Fulton County	2,737.12
Hamilton County	93,316.91
Herkimer County	11,434.89
Lewis County	3,903.87
Saratoga County	4,687.00
St. Lawrence County	1,248.42
Warren County	11,669.25
Washington County	310.50
Total	175,590.25

APPENDIX D

The following is a list of certain tax lands contained in the foregoing Appendix which, the Comptroller has officially notified me, are no longer State lands:

CLINTON COUNTY.

Old Military Tract.

Township No. 4.

Town and lot.	Area in acres
Saranac:	
15. E. ⅔ of S. ½	213⅓
Township No. 5.	
Ellenburgh:	
2.	196⅔
3.	213⅓
4.	213⅓
5.	213⅓
6.	213⅓
7.	213⅓
8. Ex. N. W. cor	113⅓
9. S. end	138⅓
10. S. end	146⅓
11. S. ½	106⅔
12. S. end 84 a., ex. 20 a., S. W. cor. thereof	64
28. S. end	113⅓
29. Ex. 83 a. N. end	130⅓
30. S. end N. ½	39⅔
30. S. ½	106⅔
31.	213⅓
32.	213⅓
33.	213⅓
48. N. E. cor. 61⅓, S. E. cor. 61⅓	122⅔
50. N. E. cor	98⅓
51.	213⅓
52.	213⅓
53.	213⅓

Township No. 5 — continued.

Town and lot.		Area in acres.
54.		213⅓
55.		213⅓
56.	Ex. 50 a. S. W. cor.	163⅓
57.		213⅓
58.		213⅓
59.		213⅓
60.		213⅓
61.		213⅓
62.		213⅓
63.		213⅓
64.		213⅓
65.	Ex. 40 a. N. W. cor.	169⅓
66.	Ex. 100 a. S. end.	113⅓
68.	N. E. cor.	151
69.	N. P't.	63⅓
69.	S. P't of 113⅓ a., N. P't	50
69.	All of 63⅓ a., W. P't not contained in 113⅓ a., N. P't of lot.	$29\frac{62}{100}$
69.	All of 106 a., E. P't of 169⅓ a., W. P't not contained in 113⅓ a., N. P't of lot	$49\frac{7}{10}$
70.		213⅓

Township No. 6.

Clinton:		
34.	N. W. cor., 94 r. wide N. and S., and 120 r. long E. and W.	70

PION PATENT.

Saranac:		
4.	S. W. cor., b'd E. by Turner.	7
4.	N. E. ¼ Ex. 27 a. N. E. cor. thereof.	97
5.	B'd N. by Lewis, E. by Turner and S. by lot line	25

DUERVILLE PATENT.

Altona:		
42.		250

REFUGEE TRACT.

420 a. Lots.

191.	E. ½.	210

ESSEX COUNTY.

Old Military Tract.

Township 1 and 2.

Richard's Survey.

Town and lot.	Area in acres.
Keene:	
42. W. P't	100

Township No. 11.

North Elba:	
217.	200

Township No. 12.

Thorn's Survey.

22. S. ½	80
59. S. ½	80
143. W. ½	80

Roaring Brook Tract.

Elizabethtown:	
47.	260

WARREN COUNTY.

Palmer's Purchase — Rear Division.

Great Lot, No. 3.

Stony Creek:	
N. ½ of 3,150 a. S. P't	1,575

FRANKLIN COUNTY.

Old Military Tract.

Township No. 10.

220	200
293	200
354	240

Gore E. of Township No. 9, O. M. T.

Bellmont:	
9. S. E. cor.	30

MACOMB'S PURCHASE.

Great Tract No. 1.

Township No. 23 (*S. E.* ¼).

Town and lot.	Area in acres.
N. end of 144 a., N. W. cor	111
S. end of 144 a., N. W. cor	33

HAMILTON COUNTY.

TOTTEN AND CROSSFIELD'S PURCHASE.

Township No. 37.

Long Lake:	
13.	160
33.	200
71.	160
72.	160
73.	160
74.	160
75.	160
76.	160
77.	160
78.	160
79.	160
80.	200
81.	203
82.	200
95.	160
96.	160
97.	160
98.	160
99.	160
101.	160
102.	160
103.	160
104.	160
105.	200
106.	203
112.	240
113.	240

BERGEN'S PURCHASE.

PATENT NO. 7.

Town and lot.	Area in acres.
Wells:	
1.	270

OXBOW TRACT.

Arietta:	
250.	155

HERKIMER COUNTY.

VROOMAN'S PATENT.

Wilmurt:	
9. All in Wilmurt, Ex. 60 a. W. end thereof	74

JERSEYFIELD PATENT.

Ohio:	
41. N. ½, ex. 50 a. S. E. cor. and 50 a. S. W. cor. thereof, resident land of David Hodge	425

FULTON COUNTY.

LOTT AND LOW'S PATENT.

Stratford:	
29. S. W. cor	40

JERSEYFIELD PATENT.

60. S. E. ¼, or S. E. cor	250
61. W. P't, S. W. cor., or W. cor	100

APPENDIX E.

LAWS RELATING TO THE ADIRONDACK REGION PASSED DURING 1883.

CHAPTER 13.

AN ACT to prohibit sales of lands belonging to the state in the counties of Clinton, Essex, Franklin, Fulton, Hamilton, Herkimer, Lewis, Saratoga, St. Lawrence and Warren.

Passed February 6, 1883.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. Hereafter and from the passage of this act no sales shall be made of lands belonging to the state situated in the counties of Clinton, Essex, Franklin, Fulton, Hamilton, Herkimer, Lewis, Saratoga, St. Lawrence and Warren.

§ 2. Nothing in this act shall be construed as prohibiting the commissioners of the land office from conveying lands heretofore contracted to be sold, and not yet conveyed, to the purchasers thereof.

CHAPTER 331.

AN ACT to protect the waters of Lake George and Schroon lake in this state.

Passed April 27, 1883; three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. It shall not be lawful for any person or persons to drain, deposit, throw or cast any dead animal, carrion, offal, excrement, garbage or other putrid or offensive matter in the waters of Lake George and Schroon lake in this state; provided that nothing herein shall be construed to apply to the usual waste or drainage from factories.

§ 2. Whoever shall violate any of the provisions of this act shall forfeit the sum of one hundred dollars for each offense.

§ 3. Any person may in his own name, or in the name of himself and the overseers of the poor of the town in which the offense is committed, prosecute and recover the penalty prescribed in the next preceding section for himself and the said overseers of the poor of said town, and, on a recovery, shall be entitled to retain one-half of said penalty, and the other half, after deducting one-half the expenses of the prosecution shall be paid to the overseers of the poor of said town for the support of the poor thereof.

§ 4. This act shall take effect immediately.

CHAPTER 470.

AN ACT in relation to state lands.

Passed May 25, 1883; three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. Whenever the state of New York owns an undivided interest with any person in any real estate within this state, or holds and is in possession of any such real property, as joint tenant or tenant in common with any person within this state who has an estate of freehold therein, any such person may, upon obtaining the consent in writing of the comptroller thereto, maintain an action for the partition of said property according to the respective rights of the parties interested therein, and for a sale thereof if it appears that a partition cannot be made without great prejudice to the owners, in the same manner as if the state were not entitled to exemption from legal proceedings and with the same force and effect as in other cases, except no costs shall follow judgment thereon. A copy of the summons and complaint in such action shall be served upon the comptroller of the state and it shall be his duty to deliver the same to the attorney-general for proper appearance for the state.

§ 2. In case any forest lands situated in the counties of Hamilton, Herkimer, St. Lawrence, Franklin, Essex, Clinton, Saratoga, Fulton or Lewis, in which the state is a joint owner or tenant in common with any person or persons, is sold in pursuance of a judgment of the court, as provided in section one of this act, the comptroller shall in behalf of the state attend the sale of said lands and purchase the same for the state, if said lands can, in the judgment of the comptroller, be purchased at their fair value.

§ 3. For the purpose of paying for lands purchased upon partition sales, as provided in section three of this act, the sum of ten thousand dollars, or so much thereof as may be necessary, is hereby appropriated out of any funds of the state not otherwise appropriated, such sums to be paid by the treasurer of the state upon the warrants of the comptroller. In case the funds hereinbefore appropriated shall at the date of entry of a judgment of partition, as herein provided, be exhausted, the court shall, upon application of the attorney-general, direct that no sale be made until the expiration of two months after adjournment of the next session thereafter of the legislature.

§ 4. The commissioners of the land office may, in their discretion, sell any lands which have been any part of the canal lands of this state and which have been or may be determined and officially declared by the canal board to be abandoned by the state for canal purposes, and also any lands to which the state has acquired title by purchase, on the foreclosure of mortgages taken by any loan commissioner on the loan of certain United States deposit funds, or any loan of money authorized by this state, and also any lands lying within the corporate limits of any city or village and which has not been devoted by statute to some public use. The commissioners of the land office shall have no power to lease any forest lands lying within the counties of St. Lawrence, Franklin, Lewis, Hamilton, Herkimer, Essex, Fulton, Saratoga and Warren.

§ 5. The commissioners of the land office are hereby authorized to sell and convey at private contract and sale all the right, title and interest of the people of the state of New York to any lands in the county of Clinton, on such terms as shall be for the best interest of the state; provided, however, that any such sale or sales shall be confined to lands from which the timber has been removed, and to actual settlers, and in tracts of not over two hundred acres in one parcel; and provided further such sales shall be confined to lands purchased for prison purposes. If any part of the price is unpaid at the time the grant is executed the payment of it with interest at the rate of six per cent per annum shall be secured by mortgage upon the land sold, and upon default of payment thereof of principal or interest, then the said commissioners are hereby authorized to foreclose said mortgage by sale of said land. No sale under the provisions of this act shall be made, except upon the recommendation of the comptroller of this state.

CHAPTER 499.

AN ACT to provide for the survey of detached portions of state lands, in the north-eastern portion of New York and Adirondack wilderness, and making appropriation therefor.

Passed June 2, 1883; three-fifths being present.

The People of the State of New York, represented in Senate and Assembly do enact as follows:

SECTION 1. The superintendent of the Adirondack survey is hereby directed to make surveys showing the location and area of the detached portions of state lands in the counties of Clinton, Essex, Franklin, Fulton, Hamilton, Herkimer, Lewis, Saratoga, St. Lawrence and Warren, and to connect the same with the surveys of the interior, and to show upon a map or maps the position of such lands.

§ 2. The methods of surveys shall be in accordance with those now in use on the Adirondack survey, and copies of all maps relating to such state lands shall be filed in the office of the comptroller and state engineer and surveyor, and the said superintendent shall render a report to the legislature of his proceedings and of the results of the work within sixty days after the meeting of the legislature, and the sum of fifteen thousand dollars is hereby appropriated, payable by the state treasurer, on the warrant of the comptroller, out of any moneys not otherwise appropriated, for the purposes of carrying out the provisions of this act; which said sum shall be accounted for to the comptroller, with bills of items and vouchers therefor.

§ 3. This act shall take effect immediately.

APPENDIX F.

DECLINATION OF THE MAGNETIC NEEDLE

BASED UPON

FIELD OBSERVATIONS AT MERIDIAN LINE STATIONS OF THIS SURVEY.

AND

Computed declinations of the needle based on observed azimuths of ancient boundary lines from the true meridian as determined during 1884 and compared with recorded original magnetic bearings of said lines in the years (1766, etc.) given.

NOTE.—The magnetic observations were generally taken upon the subdivision or patent lines and not at the trigonometrical stations. The latitudes and longitudes of the magnetic stations are, therefore, deduced positions of stations in the vicinity.

STATION.	L. and M. of Station.		Time of Observation.				Declination of needle observed. (Variation West.)	Remarks.
	L.	M.	Year.	Month.	Day.	Hour.		
	° ′	H. M.					° ′	
Morehouseville, Hamilton County	43 20.1	4 59.0	1883	Aug.	5th.	5 P.M.	8 24.0	Observations by Mr. Colvin.
Piseco Lake P. O., near Courtney's...	43 24.0	4 58.2	1883	Aug	6th.	5.30 "	11 01.73	Hamilton county.
Upper Saranac Lake........................	44 18.7	4 57.0	1883	Aug.	15th.	10.30 A.M.	10 47.0	Franklin county.
St. Regis Lake, near Paul Smith's.	44 24.0	4 56.9	1883	Aug.	16th.	9.30 "	10 09.0	Franklin county.
Malone, Low's Pinnacle...	44 49.5	4 57.0	1883	Aug.	17th.	3.30 P.M.	12 30.0	Franklin county.
Moosehead mountain, near Seavey's	44 14.0	4 58.5	1883	Aug.	22d.	5.41 "	9 25.0	Franklin county.
Bog mountain, near Fenton's	44 23.0	4 58.9	1883	Aug.	23d.	4 "	5 59.2	Franklin county.
Foot of Bog. Munger's at Raquette R. Station 165...	44 25.0	4 59.0	1883	Aug	23d.	5.45 "	10 08.0	Franklin county.
Colton Village Raquette R. S., Farnsworth m't. 44...	44 31.7	4 59.6	1883	Aug	24th.	8.30 A.M	9 29.7	Franklin county.

St. Regis, Indian Village	44 59.0	4 58.6	1883	Sept.	10th.	4 P. M.	10 31.2	Franklin county.
Mt. Azure	44 27.5	4 57.9	1883	Sept.	16th.	4.58 "	9 40.0	Franklin county.
Ragged Lake	44 42.0	4 56.0	1883	Sept.	22d.	10.38A.M.	14 59.2	Franklin county.
Johnsburgh	43 36.0	4 55.8	1883	Aug.	4th.	11 "	10 45.6	Warren county.
Near outlet of Schroon Lake, Chester	43 41.0	4 55.2	1883	Aug.	5th.	10 "	9 46.2	Warren county.
Near Warrensburgh	43 30.0	4 54.9	1883	Aug.	8th.	5 P. M.	11 01.2	Warren county.
Starbuckville	43 38.5	4 55.0	1883	Aug.	8th.	2 "	10 37.5	Warren county.
Horicon	43 36.5	4 55.0	1883	Aug.	8th.	1 "	10 38.7	Warren county.
North Creek	43 49.5	4 55.9	1883	Aug.	4th.	2.30 "	11 38.75	Warren county.
Riverside	43 37.5	4 55.5	1883	Aug.	4th.	8 A. M.	9 49.37	Warren county.
At the Glen	43 33.0	4 55.4	1883	Aug.	3d.	3.30P.M.	13 10.00	Warren county.
Station south of Thurman	43 24.5	4 55.3	1883	Aug.	3d.	9 A. M.	11 26.37	Warren county.
Stoney Creek Station, Adirondack R. R.	43 22.75	4 55.4	1883	Aug.	1st.	5 P. M.	11 10.62	Warren county.
Luzerne	43 16.75	4 55.3	1883	Aug.	1st.	10 A. M.	10 55.00	Warren county.
Thurman Depot	43 27.0	4 55.2	1883	Aug.	3d.	10.30 "	11 20.62	Warren county.
Clear Pond, North Elba	44 10.0	4 55.8	1883	Sept.	26th.	....	9 50.0	Essex county.
Jerseyfield Lake	43 16.0	4 58.9	1883	July.	8th.	6 P. M.	8 20.0	Herkimer and Hamilton Co.
Jerseyfield Lake	43 16.0	4 58.9	1883	July.	8th.	6 "	8 10.0	Herkimer county.
Mt. Jerseyfield	43 15.8	4 58.9	1883	July.	9th.	4.30 P.M.	8 57.3	Herkimer county.
Station on West Shore of Jerseyfield Lake	43 16.1	4 59.0	1883	July.	10th.	10 A.M.	9 12.0	Herkimer and Hamilton Co.
Station on East Shore of Jerseyfield Lake	43 16.1	4 58.9	1883	July.	10th.	4 P. M.	9 02.0	Herkimer and Hamilton Co.
Long Point on Jerseyfield Lake	43 16.0	4 58.9	1883	July.	10th.	6.30 "	12 36.5	Hamilton county.
Myers' Hill, near Forestport	43 25.6	4 00.3	1883	July	16th.	6 P. M.	7 00.5	Oneida county.
Gommer Hill	43 36.7	5 01.7	1883	July.	17th.	3.30 "	8 55.2	Lewis county.
Myers' Hill	43 25.6	5 00.3	1883	July.	19th.	6 "	8 09.6	Oneida county.

APPENDIX F. — (*Concluded.*)

STATION.	L. and M. of Station.		Time of Observation.				Declination of needle observed. (Variation West.)	Remarks.
	L.	M.	Year.	Month.	Day.	Hour.		
	° ′	H. M.					° ′	
Northeast corner of Servis' Patent	43 16.2	5 00.3	1883	July.	20th.	3.30 P.M.	9 27.5	Observations by Mr. Colvin.
High Dune, Shore West Canada creek	43 15.15	5 00.3	1883	July.	21st	10 A. M.	9 26.7	Herkimer county.
North bank of West Canada creek opposite Baxter's	43 17.0	5 00.3	1883	July	22d.	3.30 P.M.	9 43.7	Herkimer county.
Hill Station, Service's Patent	43 16.2	5 00.3	1883	Aug.	3d	5.30 "	10 33.0	Oneida county
Le Rayville	44 01.0	5 02.9	1826	June.	18	....	5 45.0	Jefferson county.
Keene Valley	44 10.0	4 55.1	1883	....	....	....	11 32.6	Essex county.
Declinations deduced from observations of bearings of ancient lines.								
West of Jerseyfield Lake	43 15 5	4 58.9	1768	July	....	....	6 14.9	Hamilton and Herkimer Co's.
Crossing of Jerseyfield Lake	43 16.0	4 58.9	1768	July	....	....	5 56.7	Herkimer county.
Station Westward on north line of Service's Patent	43 16.3	5 00.4	1795	....	....	....	4 40.0	Oneida county.
Northeast corner Service's Patent	43 16.2	5 00.3	1795	....	....	....	4 19.5	Oneida county.
East line of Oneida county	43 16.2	5 00.3	1802	....	....	....	5 00.1	Oneida and Herkimer Co's.
West Canada Lakes	43 36.0	4 58.4	1772	....	....	....	6 54.2	Hamilton county.
Keene Valley	44 10.0	4 55.1	1817	....	....	....	8 02.6	Essex county.
Malone	44 49.5	4 57.0	1799	....	....	....	9 15.0	Franklin county.
St. Regis Indian Reservation	44 59.45	4 58.6	1799	....	....	....	7 16.0	Franklin county.
St. Regis Lakes	44 24.0	4 56.9	1799	....	....	....	6 54 0	Franklin county.
Saranac Lakes	44 18.7	4 57.0	1799	....	....	....	7 32.0	Franklin county.
Granshue Township	44 23.0	4 58.9	1800	....	....	....	1 16.2	Franklin county.

TABLE OF THE VARIATION OF THE NEEDLE.

For use in the Land Office at Pierrepont Manor in Jefferson County, New York, in LAT. 43° 43′ 45″ N., and LONG. 75° 56′ 57″ W.; and to apply to Great Tracts Nos. 4, 5 and 6 Macomb's Purchase, which were surveyed and allotted from 1795 to 1803.

Made 1823, September 18, and 1856, November 25:

By William C. Pierrepont.

Variation: Yearly, 5′ 14″. 4367: Daily, 0″. 86107.*

		°	′	″			°	′	″
1797.	October 1, no variation.								
1797.	November 25, var. W....	0	00	48.24	1840.	November 25, var. W....	3	46	09.10
1801.	do do	0	21	45.99	1841.	do do	3	51	23.54
1802.	do do	0	27	00.43	1842.	do do	3	56	37.98
1803.	do do	0	32	14.87	1843.	do do	4	01	52 42
1804.	do do ...	0	37	29.30	1844.	do do	4	07	06.86
1805.	do do	0	42	43.76	1845.	do do	4	12	21.30
1806.	do do ...	0	47	58.17	1846.	do do	4	17	35.74
1811.	do do ...	1	14	10.35	1847.	do do	4	22	50.18
1816.	do do	1	40	22.54	1848.	do do	4	28	04.62
1820.	do do	2	01	20.30	1849.	do do	4	33	19.06
1821.	do do	2	06	34.74	1850.	do do	4	38	33.50
1822.	do do	2	11	49.19	1851.	do do	4	43	47.94
1823.	do do	2	17	03.62	1852.	do do ...	4	49	02.38
1824.	do do	2	22	18.06	1853.	do do	4	54	16.82
1825.	do do ...	2	27	32.05	1854.	do do	4	59	31 26
1826.	do do	2	32	46.94	1855.	do do	5	04	45.70
1827.	do do	2	28	01.38	1856.	do do	5	10	00.14
1828.	do do	2	43	15 82	1857.	do do ...	5	15	14.58
1829.	do do	2	48	30 26	1858.	do do	5	20	29 02
1830.	do do ...	2	53	44 70	1859.	do do	5	25	43.46
1831.	do do ...	2	58	59.14	1860.	do do	5	30	57.90
1832.	do do ...	3	04	13.58	1861.	do do ...	5	36	12 34
1833.	do do	3	09	28.02	1862.	do do	5	41	26.78
1834.	do do	3	14	42.46	1863.	do do	5	47	41.22
1835.	do do	3	19	56 90	1864.	do do	5	52	55.65
1836.	do do	3	25	11.34	1865.	do do	5	58	10.10
1837.	do do	3	30	25.78	1866.	do do	6	03	24.54
1838.	do do	3	35	40.22	1874.	do do ..	6	44	00.00
1839.	do do	3	40	54.66					

NOTE.—The only actual observations preserved are 1823, September 18.. 2° 16′ 05″
1847, 18.. 4 23
1856, November 25.. 5 10
1860, July 15.. 5 36
1863, 15.. 5 44
1864, April 12.. 5 50
1865, May 4.. 6 00
Theodolite records only to minutes................ 1874, 6 44

---

* Regents' report.

INDEX.

A.

PAGE.
Age of trees on boundary lines.... 42
Alainville.......... 132
Albany county, ancient........... 120
Algonquin Indians................ 133
Allen, Hon. W. F............... 65–68
Allotments, double systems, conflicting discovered................. 34
Ampersand Mt............... 138
Ancient corner tree.. 124
Ancient Indian church....... 17
Ancient records, searches made.... 7–8
Ancient spruce tree.......... 114

Appendix A.
  Summary of area State lands 138

Appendix B.
  List of State lands.............. 189

Appendix C.
  Lands acquired by the State under tax sale of 1881.............. 1

Appendix D.
  Lands released by the State..... 325

Appendix E.
  Laws of 1883 affecting Adirondack region...................... 331

Appendix F.
  Magnetic observation... -- 334

Appropriations insufficient 183
Arago, M 171
Area of Adirondack forest........ 182
Arnold, D. M............. 153
Arthurborough, line of.......... 61–63
Aspens, second growth....... 20
Astronomical observations..... 99, 102
Atmosphere, haziness of.......... 15
Attesting of lines, how done....... 7
Attorney-General................ 66
Averill, Jr., H. K.. 10, 17, 23-25, 69–73
Azimuth of county line........... 108
Azure, Mount............. 17, 18, 140
  " variation of needle........ 18
  " height of Mt. Azure....... 18

B.

PAGE.
Bald hill, near Granshue line...... 145
Barhydt hill......... 98
Base-line measured.... ..... '103–106
Base-lines measured on ice of Lake George..................... 152
Batteau constructed.............. 40
Bayard, William................. 83
Beard, Francis.................. 93
Bellmont 23
Benson township, boundary....... 118
Benson township, south-west corner. 116
Benson township................. 10
Benson township................. 51
Bergen's purchase............... 118
Bronson, lands of................ 101
Birch hill, signal station.......... 73
Black creek..................... 92
Black Creek lake.... 61
Black river sources....... 168
Blake, M., assistant........... 49, 74
Blocks, proof-blocks taken from trees 42
Bog mountain....... .... 13, 145
Bog, The foot of, variation of needle at................... 13
Boon, Garret.................... 94
Boonville 14
  " 49
Boundaries, proof of............. 42
Brayhouse corner(& line). 49–63, 94–116
Broadwell, Henry................ 94

C.

Canaan, signal station........... 73
Caldwell tract............... 34, 63
Camp in the snow................ 162
Canadian boundary line........... 16
Canadian lines connected with..... 16
Canals, water supply for..... 168
Cedar lakes..................... 129
Character of State lands........ 26–31
Charlotte county................ 120
Chase's, Loon lake.... 19
Chateaugay Iron Company........ 65
Chateaugay iron mines........... 25

PAGE.
Chateaugay lake 21
Chateaugay, Indian point 22
Chateaugay lakes 75
Church at St. Regis, ancient Indian. 17
Clear pond, Granshue 145
Clinton county 10, 22, 64
Clinton, George, Governor 52
Clinton prison 67
Clinton county, rain-fall.. 176, 177, 179
Cochran, R. 68
Colden, Alexander, Surveyor-General 94
Colonial surveys 7
Colton, St. Lawrence county 13
Colton, variation of needle 13
Comptroller, letter of 65
Comptroller, information from 4
Comptroller, surveys desired by him 5, 6
Comptroller, correspondence with.. 5
Comptroller, views of 34
Comptroller, wishes of 87
Conclusion 182
Conflicting allotments 34
Correspondence 9
Cranberry lake 144
Crandall, S. B. 10, 13, 144
Contracts for work 9
Cosby's manor 83
Crataegus Crus-galli 87
Crutzenberger, Coenradt 93

D.

Danger to life and property 33
Dartmouth, Earl of 34, 118
Davenport, Hon. Ira 5, 6
Davis, N., surveyor 128
De Bar mountain 17, 138
Declination of the magnetic needle. (See last Appendix.)
Deer abundant 145–147
Dense fogs near River St. Lawrence 15
De Line's lake 57
Details of measurements 32
De Witt, Simeon, Surveyor-General 51, 52, 133
De Witt tract 86
Dexter lake 56
District Attorney Steele 33
Documents referred to 8
Drag-chain 44
Drowning of lands 19
Duane, Franklin county 19
Dust-haze 168

E.

East Canada creek 55, 57
East Stony creek 123
Elevations 21, 165, 166
Electricity, atmospheric 170
" trees act as conductors. 170

PAGE.
Ellenburgh, town of 71
Ellenburgh, assessments in 71
Ellenburgh, order of Supreme Court 71
Elizabethtown, rain-fall 178
Emelyville township, State lands in. 143
Errors in records 7
Essex county 10, 132
Evidence of Hon. A. B. Steele 33
Eyles, Sir Joseph 34

F.

Farnsworth, S. J. 10, 15, 26
Featherstonehaugh, Mr 68
Field work 11
First lake 44
Fish creek 57
Fleming, George 68–74
Forests, condition of 26–31
Forests, how they affect the rain-fall 168
Forestport 11–49
Forest roads, bad condition of 50
Forest surveyors, skilful 7
Francisco, J. 10, 49, 52, 113–128
Franklin county 10, 137
French seignories 132
Fias, Peter 93
Free Masons patent 83
Frederick, Peter 93
Fulton county 10, 112
Fulton county State lands 35
Fulton and Herkimer counties. 10

G.

Gage, Thomas 94, 95
Gallenger, Michael 93
Gallien, Hon. Henry 66
General observation 26–31
Gere, R. H. 53
Giant mountain 134
Glacial drift 16
Glen, Bleecker & Lansing patent 51
Glen, Bleecker & Lansing purchase; north-west corner 116
Glens Falls feeder 168
Glen, Henry 34, 51, 52
Glen, John 118
Glover, D. F., transit-man 74
Gold mines 35
Gommer hill 14, 93
Grand jury, evidence before 33
Granshue, St. Lawrence county 13
Granshue township, State lands in. 143
Grant, village of 13

H.

Hail, remarkable hail-storm 170
Hail, evidences of, years afterward. 171
Hamilton county 10, 112

PAGE.
Hamilton, Mount 45
Hammond, Hon. John 66
Hanging-lakes 172
Hannah-Murray map 65
Hawkins, C. R., transit-man 89
Haziness of atmosphere 15
Hendrick, King of six nations 35
Herkimer county 81, 82
Herkimer county line 12
  Conclusions 110
  Facts found 111
Herkimer county line, survey of, desired by Comptroller 6
Herkimer county District Attorney. 33
High-dune 97
Hipp, George 93
Hipp, Stephen 93
Hohen-rauch, impediment to long sights in triangulation 163
Holland, Henry Lord 95
Hoquart 132

I.

Identification of lines 7
Illustrations 187
Illustrations, list of 185, 186
Impartial surveys 34
Indian Church at St. Regis (ancient) 17
Indians, remnants of the six nations 15, 16
Instruments 8–9
Instruments, care required 50
Iron mines 25
Iroquois, last of the 15–16
Islands in Lake George owned by the State 151
Island in West Canada creek 39
Island (initial point north line Jerseyfield patent) 39

J.

Jerseyfield patent, Comptroller's views 6
Jerseyfield patent, details of measurements 32
Jerseyfield lake 47, 48–49
Jerseyfield line 10
Jerseyfield, Mount 45
Jerseyfield patent, north line, conclusions 59
Jerseyfield patent, facts found by survey 62–63
Jerseyfield patent, north-east corner 116
Johnson, C. W. M 72
Johnson, Sir William Bart 34
Jones, Griffith 10, 38, 50
Journal 11

K.

PAGE.
Keene Valley, rain-fall 174–179
Keep, George 93
Kellogg, S. D 77, 184
Kelley, Lorin, Surveyor 10, 36, 43, 45, 113
King, Hendrick 35
Koetteritz, J. B 10, 24, 38, 39, 50

L.

Lake George, base-line measured on the ice 152
Lake George, State lands at, and Islands in 150
Lakes, location of, useful in identifying boundaries 37
Law governing boundaries 33
Lawlessness 33
Lawrence, Jonathan 34
Lawrence, North Lawrence 18
Lawrence patent 10
Lawrence tract 114, 115
Lawrence tract, south-east corner .. 116
Leake, Robert 118
Leffert, Dierk 118
Leman, Lawrence 94
Lewis county line, Survey of, desired by Comptroller 6
Lewis county line 14
Lewis and Herkimer Co 10
Lewis county 81–82
Link, Matthias 94
List of islands in Lake George. 154–156
List of State lands 4
Little Falls 44
Livingston, Philip 118
Local attraction of needle 46
Local attraction of needle 84
Location of State lands 26–31
Locke, G. L 10, 184
Loon lake, height of 21
Low, Isaac 118
Lowville, Lewis Co 90
Luzerne 118
Lyon Mountain 25, 76

M.

Magnetic Iron 25
Magnetic Variation. (See last Appendix.)
Malone 141
Mann, Charles A 94
Map, Hannah Murray's 65
Maps, prepared 8
Matchin tract 86
Matteson, Mount 45
Meteorology 168
Miller, Peter 93
Miller, Rutger B., Jr 67
Mitchell, Medad 149
Moore, Sir Henry, Baronet, Captain-General and Governor 93

PAGE.
Moorehouseville........ 12
" variation of needle at. 12
Moose River................ 14, 107
Moose River Tract.......... 10, 128
Moosehead Mountain.... 13
Molecular condition of atmosphere 169
Monument, reference............ 42
Mordant, Joseph................. 94
Morgan, Thomas.................. 94
Mosscrop, A. M............... 39, 50
Mount's lake.................... 44
Mt. Hamilton.................... 45
Mt. Jerseyfield................. 45
Mt. Jerseyfield, height of........ 45
Mt. Jerseyfield, latitude and longitude. 45
Mt. Matteson. 45
Murray, Hannah.............. ... 65
Myer's clearing 90–91
Myer's Hill................... 92, 97

N.

Narrative (abstract)............. 11
New Survey, T. No. 5............ 64
Nobleborough, line of........... 61–63
North-branch, lake of Black Creek 44
Northrop, E. F............... ... 50
Norton, John L.............67, 70, 71

O.

Old colonial records 93
Old military tract 64, 133
Oneida county line.............. 85–86
Organization 10
Osgood pond.................. .. 140
Osgood pond, height of.......... 21
Owl-crest 138
Oxbow lake...................... 12
Oxbow tract..................... 61

P.

Palmer's purchase 118
Palmer's purchase, diagrams .. 121–122
Palmer's purchase, conclusions.... 126
Palmer's purchase, facts found 127
Palmer, Thomas 118
Paragrêle, not efficacious......... 171
Pen mount, Oneida county....... 90
Pirogues (canoes) 17
Piseco lake 12
Plattsburgh.. ....26, 176, 177, 179
Phelps' (Mt. Azure)............... 17
Phelps, Mount.................. 136
Photographic work............... 14
Platt, Zephaniah........ 133
Pleasant, Lake.................. 12
Potsdam 13
Prison, Clinton.................. 67
Pritchard hill, Oneida county..... 89
Pyon, signal station............. 73

R.

PAGE.
Ragged lake 22–23
Ragged lake, variation of needle .. 23
Ragged lake, height of............ 23
Railroads, new 35
Rainbow lake... 21
Rain-fall 167
Rain-fall, causes of........ 168–169–170
Rain-fall, increase with altitude.... 179
Rain-fall records. 174–175–176–177–178–179–180–181
Rannion, Samuel................. 93
Ransom, Lewis 69
Reconnaissance difficult........... 98
Red snow....................... 162
Refraction, irregular............. 15
Remsen, Oneida county 89
Remsen, Peter................... 118
Reservation, St. Regis..... 15–16
Reservation, area of.............. 16
Reservation, reference monument. 16
Resolution of the Senate and Assembly 85
Richards, John 136
Roaring brook tract........... 134–135
Rocket signals....... 99
Rogers, Edmund Law... .... 65, 66–67
Rogers, C. M. L.................. 66
Rogers, deed made by 66–67
Rogersfield 25–26
Royal grant...................... 34
Rules of work.................... 4
Rupert, Adam.................... 93
Russell, Michael................. 93

S.

Sackett's Harbor railroad.......... 38
Sacondaga river.................. 119
Salisbury 49
Sambucus Canadensis............. 87
Sanborn hill, signal station 73
Saranac, north branch 19
Saranac lakes............ 141
Saratoga county.................. 11
Saratoga county.................. 113
Sauthier ; Claude, Joseph 124
Seignories, French..... 132
Senate committee on State lands .. 12
Servis, Peter 93
Servis, Jr., Peter......... 93
Service's patent 83–86–87
Service's patent.................. 95
Service's patent, N. W. corner 96
Service's patent, lot No. 8 100
Shafer, Nicholas 93
Signal work 11
Signal Mt. Azure..............18, 19
Signaling by rockets. 99
Sickels tract........ 34
Simms, John 94
Six nations, their last reservation. 15–16
Sixteen mile level 18–19

PAGE.
Sickel's tract.................... 63
Smith, C. H..................... 50
Smith's, Paul.................... 141
Smith, Hon. W. E................ 71
Snell, S. H..... ....10, 12, 38, 89
Snell, S. S.................. .. 39–40
Snow, red....................... 162
Snyder, Andreas................ 93
Sources of the rivers............ 173
Sphagnum...................... 172
Springs, peculiar................ 172
Spruce-duff......... 172
Spruce tree corner 58
Spruce replaced by monument.... 58
St. Lawrence county........... 10, 143
St. Lawrence, signal station...... 16–26
St. Regis lake, height of.......... 21
St. Regis reservation.............. 14
St. Regis, variation of magnetic needle at....................... 14
Stam, George........... 94
State lands, condition of and value of......................... 26–31
State lands, neglect of............ 183
State lands, summary of.......... 188
State lands, detailed statement by counties......... 189
Statute governing boundaries...... 83
Steele, Hon. A. B................ 83
Stink lakes...................... 57
Stoner's lakes............... 57
Storms, cause of................. 169
Steuben, Baron.................. 95
Survey parties, list of............. 10
Surveyors, colonial............... 36
Surveys desired by the Comptroller.......................... 65
Surveys, impartial................ 34
Sweet, H. D. L................ 65, 68

T.

Table-top mountain.............. 136
Tappen, Cornelius.... ....68, 133
Tax laws, defects in...... 20
Tioga river..................... 37
Theodolites, large........... 161
Tibbit, Moses....... 93
Timber, depredations on State lands.. 33
Toilsome experiences............ 107
Topographical surveys desired by Comptroller... 6
Totten and Crossfield's purchase. 10, 128
Township 5, old military tract, (Comptroller's views)........... 6
Township No. 5................. 10
Township No. 5, O. M. T.. 70
Township No. 5, real dimensions.. 78
Township No. 5, conclusions relative to.......................... 78
Township No. 5, facts found....... 79
Trees discharge the electricity of the clouds..................... 171
Trees, deciduous......... 172
Triangulation........ 11, 14, 25, 26, 158
Triangulation, new signal stations, 159, 160
Triangulation, primary.......... 10
Triangulation, secondary.......... 10
Tryon county... 120
Tryon, Governor William......... 119
Tug Hill......................... 92

U.

Unoccupied lands............... 60–63

V.

Value of State lands. .26, 31, 60, 61, 151
Variation of the needle..... 12, 46, 108 109, 140, 141, 149, 151, 334, 337
Veder, Lucas.................... 93
Vrooman, Isaac 34, 37, 51, 114
Vrooman's lake.... 114
Vrooman, Lawrence... ... 51, 114, 126
Vrooman's patent................ 10

W.

Wall, lands of.................. 101
Wardner, S...................... 11
Warren, A. G.................... 50
Warren county........... 11, 112, 150
Water-ash tree corner.......... 95–100
Weed, Hon. S. M................ 66
West Canada creek............... 37
West Canada lakes....... .. 128–129, 130
West, Johannes.................. 93
Westport 133
Wild animals met with........... 54
Wilcox lake..... 123
Wilmurt corners.............. ... 43
Wilmurt, Herkimer county, line of.................... 39–43
Wind, how affected by trees....... 169
Wind-slash...................... 145
Witnesses, evasions of........... 33
Wooden-soil... .... 106, 172
Wolves seen..................... 147
Work desired by Comptroller...... 65

Y.

Yates, Christopher............... 118

D 25 NY 1886
Report on the progress of the Adiro
Loeb Design Library AOO5496
3 2044 026 922 203

D
25
NY
1886